

Cause University Curriculum Committee Meeting Minutes

The University Curriculum Committee met **Thursday, March 26, 2026**, at **3:00 p.m. via Teams**.

Members Present:

Michael Allen	Sharon Huo	Jennifer Shank
Sean Alley	Barbara Jared	Darron Smith
Melinda Anderson	Christy Killman	Matthew Smith
Julie Baker	Peter Li	Daren Snider
Angie Briggs	Karen Lykins	Dennis Tennant
Scott Christen	Josh Martin	Steve Thomas
Brittany Copley	Hayden Mattingly	Eli Tidwell (student)
Je Cui	Kelly McCallister	Fred Vondra
Kent Dollar	Allan Mills	Jeremy Wendt (Chair)
Brandi Fletcher	Ben Mohr	Kevin West
Steve Frye	Linda Null	Braxton Westbrook (student)
Julie Galloway	Thomas Payne	Chris Wilson
Gerald Gannod	Richard Rand	Kim Winkle
Kim Hanna	Mohan Rao	Lauren Wright
Steven Hayslette	Chad Rezsnyak	Lisa Zagumny
Colin Hill	Lindsey Roberts	Jinfa Zhang
Michael Hoane	Stephen Robinson	

Members Absent:

Curtis Armstrong		Benjamin Sweeney
Cheyenne Bare (Student)	Corey Heineman	Charles Van Neste
Jie Cui	(student)	
Mike Gotcher	Abby McCulley (student)	

Official Representative(s):

Seth Williams (*for Curtis Armstrong*)

Guests:

Deb Allen	Kelly Jones	Mary McCaskey
Amy Chambers	Alfred Kalyanapu	Autumn McDaniel
Amy Hill	Jeffrey King	Michael Nattrass

Proceedings:

Confirming a quorum was present, Dr. Wendt started the meeting at 3 p.m.

UCC Agenda - March 26, 2026

Item #	Unit	Agenda Item	AC/THEC
01	UCC	Approval of Agenda	
02	UCC	Approval of March 5, 2026 Minutes	
03	Flight Foundation Courses	Transition of Gen Ed Courses to Flight Foundation Courses (see table below)	
04	Economics, Finance, Marketing	3 Curriculum Changes FF	
05a	Communication & Media	1 Course Change	
05b	Communication & Media	3 Curriculum Changes FF	
06a	Decision Sciences & Mgt	1 Curriculum Change FF - Business Information & Technology	
06b	Decision Sciences & Mgt	1 Curriculum Change FF - Business Mgt with Gen Mgt conc.	
06c	Decision Sciences & Mgt	1 Curriculum Change FF - Bus Info & Tech Business Intell conc.	
06d	Decision Sciences & Mgt	1 Curriculum Change FF - Business Mgt with HR conc.	
06e	Decision Sciences & Mgt	1 Curriculum Change FF - Business Mgt with Op/Supply Ch conc.	
06f	Decision Sciences & Mgt	1 Curriculum Change FF - New Business AI Concentration	
06g	Decision Sciences & Mgt	1 Course Change - DS2810	
07a	Biology	1 Course Deletion, 2 Course Changes, 1 Curriculum Change	
07b	Biology	5 Course Additions, 5 Course Deletions, 5 Curriculum Changes	
07c	Biology	1 New Course - Biol 1001	
08	Accounting	1 Curriculum Change FF	
09	Professional Studies	2 New Courses, 5 Curriculum Changes	
10	Environmental Studies	7 Curriculum Changes FF	
11	English	1 Curriculum Change FF - Rhetoric	
12	Chemical Engineering	5 New Courses, 4 Curriculum Changes FF	
13a	Chemistry	1 New Course	
13b	Chemistry	1 Program Elevation - Biochemistry conc to major	AC/THEC
14a	Computer Science	4 Curriculum Changes	
14b	Computer Science	3 Curriculum Changes - Course updates for newly approved FF courses	
14c	Computer Science	1 New Course - AI 3000	
14d	Computer Science	1 New Course - AI 3200	
15	Theatre	9 New Courses, 2 Curriculum Updates FF	
16a	Agriculture	1 Course Change - AGED 4300, 1 Curriculum Update - FF AGED	
16b	Agriculture	1 Program Change - delivery mode Agri Bus Mgt	AC/THEC
16c	Agriculture	1 Curriculum Change - Animal Sci Industries	
16d	Agriculture	1 Curriculum Change - Pre-Vet	
16e	Agriculture	2 New Courses, 3 Course Changes, 1 Cur Chng FF - AgBus Mgt	
16f	Agriculture	1 Curriculum Change FF - Agricultural Engineering Tech	
16g	Agriculture	4 Curr Changes FF - Hrt Lndsp Trfgr, Soil Wtr Cons, PltrySci, Agrcl Sci Mgt	
17	History	2 Curriculum Changes FF - BS & BA	
18	Sociology & Political Science	2 New Courses, 5 Curriculum Changes FF	
19a	Music	1 Course Change MUED 3811	
19b	Music	2 New Courses (MUS 2080, MUS 4810), 3 Curriculum Changes FF	
20	General & Ind. Engineering	1 Curriculum Change FF - General Engineering	
21a	Electrical/Computer ENGR	1 Course Change - ECE4210	
21b	Electrical/Computer ENGR	3 Curriculum Changes FF	

Item #	Unit	Agenda Item	AC/THEC
22	Manufacturing & ENGR TCH	3 Curriculum Changes FF	
23a	Civil & Environmental ENGR	3 Course Additions - CEE4470, 4970 and 4980	
23b	Civil & Environmental ENGR	4 Curriculum Changes FF	
23c	Civil & Environmental ENGR	7 Course Changes	
23d	Civil & Environmental ENGR	1 New Minor	
24a	Exercise Science	87 Course Changes	
24b	Exercise Science	1 New Course, 2 Course Deletions	
25a	Nuclear Engineering	9 New Courses, 3 Course Changes, 6 Course Deletions	
25b	Nuclear Engineering	1 Curriculum Change FF	
26a	Curriculum & Instruction	1 Course Change, 1 Curriculum Change ESOL 4400	
26b	Curriculum & Instruction	1 Curriculum Change - Mult St ESOL	
27	Schl Art, Craft & Design	1 Curriculum Change	
28	Other Such Matters	Election of UCC Chair for 2026-2027	

Flight Foundation Courses Currently Approved by Gen Ed Committee

COMMUNICATION (9 hours)	QUANTITATIVE REASONING AND ANALYSIS (3 hours)	SCIENTIFIC REASONING (4-8 hours)	HISTORICAL FOUNDATIONS (6 hours)	SOCIAL AND BEHAVIORAL SCIENCES (6 hours)	HUMANITIES & CULTURAL EXPRESSION (6-9 hours)	FINANCIAL & DIGITAL LITERACY (3-4 hours)
Composition (6 hours)	MATH 1010	ASTR 1010	HIST 2010	ECON 2010	ART 1035	CSC 2220
ENGL 1010	MATH 1420	ASTR 1020	HIST 2020	ECON 2020	ART 2000	CSC 2570
ENGL 1020	MATH 1530	BIOL 1010		ESS 1100	ART 2020	DLED 2000 1, 2 3 cr.
Oral Communication (3 hours)	MATH 1630	BIOL 1020		EXPW 2015	ART 3170	DS 2810
COMM 2025	MATH 1710	BIOL 1113		GEOG 1012	ART 3190	ENGL/PC 2600
PC 2500	MATH 1720	BIOL 1123		GEOG 1130	ENGL 2130	FIN 2000
NURS 2600	MATH 1730	BIOL 2310		JOUR 1110	ENGL 2235	HEC 3011
	MATH 1830	BIOL 1090		POLS 1030	ENGL 2330	JOUR 1500
	MATH 1845	BIOL 2010		POLS 1100	ENGL 2400	PRST 3130
	MATH 1904	BIOL 2020		PSY 1030	ENGL 2550	MUS 2080
	MATH 1910	CHEM 1010		SOC 1010	FLST 2520	
		CHEM 1020		NURS 2400	FREN 1010	
		CHEM 1110		WGS 2010	FREN 2510	
		CHEM 1120			GERM 1010	
		CHEM 1090			GERM 2520	
		CHEM 1410			HIST 2210	
		CHEM 1710			HIST 2220	
		GEOG 2100			HIST 2310	
		GEOL 1040			HIST 2320	
		GEOL 1045			HIST 1310	
		GEOL 1090			MUS 1030	
		PHYS 1090			PHIL 1030	
		PHYS 2010			PHIL 2250	
		PHYS 2020			RELS 2010	
		PHYS 2110			SPAN 1010	
		PHYS 2120			SPAN 1015	
					SPAN 2510	
					SPAN 2550	
					THEA 1030	

01. APPROVAL OF AGENDA

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

02. APPROVAL OF 3/5/2026 MINUTES:

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

03. GENERAL EDUCATION OF FLIGHT FOUNDATION COURSES

a. The Flight Foundations Committee met on 6 March 2026.

- I. Approved changes in existing Flight Foundations courses
 - A. MATH 1420 Change the course title to Elementary Geometry Concepts and change the prerequisite to “C or better in MATH 1410 or MATH 1630.”
 - B. MATH 1720 Precalculus Trigonometry Change the prerequisite to “A minimum grade of C in MATH 1710.”
 - C. MATH 1910 Calculus I Change the prerequisite to “ACT mathematics score of 29 or above and four years of high school mathematics including algebra, geometry, trigonometry and advanced algebra or pre-calculus mathematics; or special permission of the Mathematics Department; or C or better in MATH 1730; or C or better in MATH 1720; or equivalent.”

EXTENSIVE Discussion ensued with questions about ACT scores by Dr. Jerry Gannod and Dr. Chris Wilson. Dr. Amy Chambers offered to send complete research to any faculty member interested in DFW rates for various ACT scores.

- II. Approved new courses for the Flight Foundations curriculum
 - A. Scientific Reasoning
CHEM 1410 Forensic Chemistry (4 hours)
 - B. Humanities/Cultural Expression
ENGL 2550 Language and Identity (3 hours)
 - C. Social/Behavioral Sciences
POLS 1100 Introduction to Political Science (3 hours)
 - D. Digital Literacy
CSC 2220 Data Science and AI for Everyone (3 hours)
CSC 2570 Introduction to Cybersecurity and Privacy (3 hours)
DS 2810 Computer Applications in Organizations (3 hours)
MUS 2080 Digital Creativity: Making Music with Digital Tools (2 hours)
DLED 2000 Digital Literacy: Media, Information, and Design (2 hours)
DLED 2000 Digital Literacy: Media, Information, and Design (1 hour)
- III. Submissions returned for revision
 - A. COMM 2300 Rhetoric of Health and Medicine (3 hours)
 - B. NURS 2500 Changing Culture of Health and Illness in Healthcare Sciences (3 hours)
 - C. LIST 4925 Disability Etiquette (3 hours)
 - D. MUS 2210 Psychology of Music (3 hours)
 - E. PRST 3140 Decoding Human Behavior: Uncovering the Super Power for Thriving in Group Dynamics (3 hours)
 - F. MUS 1170 Financial Literacy for the Creative (1 hour)
 - G. LIST 3451 Financial Literacy: Budget and Credit (1 hour)
 - H. LIST 3452 Financial Literacy: Major Purchases and Insurance (1 hour)

- I. LIST 3453 Financial Literacy: Investing and Retirement Planning (1 hour)

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

04. Economics, Finance and Marketing – 3 Curriculum Changes for Flight Foundations

CURRICULUM CHANGE: Revise the general education (Flight Foundations) curriculum for all Economics, Finance and Marketing majors.

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	4
Financial and Digital Literacy	3
Flexible General Education*	4
Total	41

*Flexible GenEd hours must be taken within the categories of Humanities, Natural Science, or Financial and Digital Literacy, but cannot exceed the upper limit for any of those categories.

- I. **JUSTIFICATION:** These changes are consistent with the new university Flight Foundations general education core requirements. Reducing the Scientific Reasoning category at 4 hours, reducing the Humanities and Cultural Expression category to 6 hours, and defining the new Financial & Digital Literacy category at the minimum of 3 hours, allows Economics, Finance and Marketing majors maximum flexibility completing their general education requirement for graduation.
- II. **EFFECTIVE DATE:** Fall 2026
- III. **FINANCIAL IMPACT:** None

DRAFT

Graduation Plan

Major: ECONOMICS

First Semester		Second Semester	
ENGL 1010	3 hours	ENGL 1020	3 hours
MATH 1710	3 hours	MATH 1530	3 hours
Humanities/Cultural Expression	3 hours	ECON 2010	3 hours
Financial/Digital Literacy DS 2810	3 hours	ACGT-2110 Gen Ed	3 hours
UBUS 1020	1 hour	COMM 2025 or PC 2500	3 hours
Gen Ed	1 hour		
Total	14 hours	Total	15 hours
Third Semester		Fourth Semester	
ACGT-2120 ACCT 2110	3 hours	FIN 3210 HIST 2020	3 hours
ECON 2020	3 hours	LAW 2810	3 hours
BMGT 3510	3 hours	Science	4 hours
ECON 3610 HIST 2010	3 hours	Gen Ed ECON 3610	3 hours
MKT 3400 MATH 1830	3 hours	ACCT 2120	3 hours
Financial/Digital Literacy	1 hour		
Total	15 hours	Total	16 hours
Fifth Semester		Sixth Semester	
HIST 2010	3 hours	HIST 2020	3 hours
FIN 3210	3 hours	ECON 3820	3 hours
MKT 3400	3 hours	ECON 4640	3 hours
ECON 3810	3 hours	ECON Directed Elective	3 hours
ECON Directed Elective	3 hours	ECON Elective	3 hours
ECON Directed Elective	3 hours	Business Elective	3 hours
Total	15 hours	Total	15 hours
Seventh Semester		Eighth Semester	
Humanities/Cultural Expression	3 hours	ECON 4900	3 hours
ECON 4650	3 hours	ECON elective	3 hours
ECON elective	3 hours	ECON elective	3 hours
ECON elective	3 hours	Elective	3 hours
Elective	3 hours	Elective	3 hours
Total	15 hours	Total	15 hours

This is a sample graduation plan. Please work with your Academic Advisor to map out your individual plan for reaching your academic goals.

DRAFT

Graduation Plan

Major: FINANCE

First Semester		Second Semester	
ENGL 1010	3 hours	ENGL 1020	3 hours
MATH 1710	3 hours	MATH 1530	3 hours
Humanities/Cultural Expression	3 hours	ECON 2010	3 hours
Financial/Digital Literacy DS 2810	3 hours	ACGT-2110 Gen Ed	3 hours
UBUS 1020	1 hour	COMM 2025 or PC 2500	3 hours
Gen Ed	1 hour		
Total	14 hours	Total	15 hours
Third Semester		Fourth Semester	
ACGT-2120 ACCT 2110	3 hours	FIN 3210 HIST 2020	3 hours
ECON 2020	3 hours	LAW 2810	3 hours
BMGT 3510	3 hours	Science	4 hours
ECON 3610 HIST 2010	3 hours	Gen Ed ECON 3610	3 hours
MKT 3400	3 hours	ACCT 2120	3 hours
Financial/Digital Literacy	1 hour		
Total	15 hours	Total	16 hours
Fifth Semester		Sixth Semester	
HIST 2010	3 hours	HIST 2020	3 hours
FIN 3210	3 hours	DS 3520	3 hours
DS 3620	3 hours	FIN 3220	3 hours
DS 3841	3 hours	FIN 3830	3 hours
Humanities/Cultural Expression	3 hours	Business Elective	3 hours
Business Elective	3 hours	BMGT 3720	3 hours
Total	15 hours	Total	15 hours
Seventh Semester		Eighth Semester	
Humanities/Cultural Expression	3 hours	BMGT 4930	3 hours
FIN 4230	3 hours	FIN elective	3 hours
FIN elective	3 hours	FIN elective	3 hours
FIN elective	3 hours	FIN elective	3 hours
Elective	3 hours	Elective	3 hours
Elective	3 hours		
Total	15 hours	Total	15 hours

This is a sample graduation plan. Please work with your Academic Advisor to map out your individual plan for reaching your academic goals.

First Semester		Second Semester	
ENGL 1010	3 hours	ENGL 1020	3 hours
MATH 1710	3 hours	MATH 1530	3 hours
Humanities/Cultural Expression	3 hours	ECON 2010	3 hours
Financial/Digital Literacy DS 2810	3 hours	ACCT 2140 Gen Ed	3 hours
UBUS 1020	1 hour	COMM 2025 or PC 2500	3 hours
Gen Ed	1 hour		
Total	14 hours	Total	15 hours
Third Semester		Fourth Semester	
ACCT 2120 ACCT 2110	3 hours	FIN 3210 HIST 2020	3 hours
ECON 2020	3 hours	LAW 2810	3 hours
BMGT 3510	3 hours	Science	4 hours
ECON 3610 HIST 2010	3 hours	Gen Ed ECON 3610	3 hours
MKT 3400	3 hours	ACCT 2120	3 hours
Financial/Digital Literacy	1 hour		
Total	15 hours	Total	16 hours
Fifth Semester		Sixth Semester	
HIST 2010	3 hours	HIST 2020	3 hours
FIN 3210	3 hours	DS 3520	3 hours
MKT 4530	3 hours	MKT elective	3 hours
DS 3841	3 hours	MKT elective	3 hours
Humanities/Cultural Expression	3 hours	DS 3620	3 hours
Business Elective	3 hours	BMGT 3720	3 hours
Total	15 hours	Total	15 hours
Seventh Semester		Eighth Semester	
Humanities/Cultural Expression	3 hours	BMGT 4930	3 hours
MKT 4620	3 hours	MKT 4730	3 hours
MKT elective	3 hours	Elective	3 hours
MKT elective	3 hours	Elective	3 hours
MKT elective	3 hours	Elective	3 hours
Elective	3 hours		
Total	15 hours	Total	15 hours

This is a sample graduation plan. Please work with your Academic Advisor to map out your individual plan for reaching your academic goals.

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

05a. Communication and Media, 1 course change

I. Course name and catalog description change

FROM: JOUR 3350 Newspaper Production and Design Prerequisite: JOUR 2200 is a prerequisite for all other journalism courses. Typography and current trends in newspaper production and design.

TO: **JOUR 3350 News Production and Design** Prerequisite: JOUR 2200 is a prerequisite for all other journalism courses. Current trends in multimedia news production and design.

Justification: To align our journalism curriculum with industry standards and meet the needs of students preparing for a career in media.

Effective: Fall 2026

Cost: No additional resources are needed.

05b. Communication and Media – 3 Curriculum Updates for Flight Foundations

I. Curriculum Change:

Revise the general education (Flight Foundations) curriculum for Communication Studies and Journalism concentrations.

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences • JOUR 1110 Media & Social Institutions (required)	6
Communication • COMM 2025 Fundamentals of Communication (required)	9
Scientific Reasoning	8
Financial or Digital Literacy • JOUR 1500 Media Literacy in a Digital Age (required)	3
Total	41

Justification: These changes are consistent with the new university Flight Foundations general education core requirements and meet the needs of students preparing for a career in communication and/or media.

Effective date: Fall 2026

Financial impact: None

**Communication (COM)
Communication Studies (CS)
(Leading to the Bachelor of Science Degree with a concentration in Communication Studies)
Effective Fall 2026**

Freshman Year		Credit	Sophomore Year		Credit
ENGL 1010	English Composition I	3	JOUR 1500	Media Literacy in a Digital Age	3
ENGL 1020	English Composition II	3	HIST 2010	American History I	3
COMM 2025	Fundamentals of Communication	3	HIST 2020	American History II	3
MATH		3	Humanities/Fine Arts Electives		6
JOUR 2200	Mass Communication in a Changing Society	3	Social/Behavioral Science Elective		3
Natural Science		8	COMM 2075	Organizational Communication	3
JOUR 1110 Media & Social Institutions		3	COMM 2090	Interpersonal Communication	3
COMM 1020	Survey of Communication	3	Electives ²		6
Elective ²		1			
Total		30	Total		30
Junior Year		Credit	Senior Year		Credit
COMM 3100	Communication Theory	3	COMM 4620	Advanced Public Speaking	3
COMM 3200	Research Methods in Communication	3	COMM 4630	Persuasion	3
JOUR 3770	Law of Journalism	3	Electives ²		12
COMM 3620	Intercultural Communication	3	Communication Application Electives ⁴		6
COMM 3080	Communication & Effective Teamwork	3	Communication Theory Electives ³		6
Communication Application Elective ⁴		3			
Communication Theory Electives ³		6			
Mass Communication Application Elective ¹		3			
Elective ²		3			
Total		30	Total		30

Note:

¹ Students may choose from the following: **JOUR 1110**, JOUR 3400, JOUR 3460, JOUR 3750.

² Elective course to be selected in consultation with academic advisor.

³ **Theory Electives.** Students may choose from the following: COMM 3000, COMM/JOUR 3040, COMM 3120, COMM 4420, COMM 4430, COMM 4440, COMM 4601, COMM 4602, COMM 4603, COMM 4900, COMM 4901, **JOUR 3460, JOUR 3750, JOUR 4460, LIST 3500, LIST 4710.**

⁴ **Application Electives.** Students may choose from the following: COMM 2800, COMM/JOUR 3030, **COMM 3080**, COMM 3130, COMM 3400, **COMM 3630**, COMM 4540, COMM 4550, COMM 4601, COMM 4602, COMM 4603, COMM 4853, COMM 4856, COMM 4900, COMM 4901, **JOUR 3400, JOUR 3420, JOUR 3470**, JOUR 3480, JOUR 4030.

Proposed

**COMMUNICATION (COM)
Journalism/News Editorial Option
(Leading to the Bachelor of Science Degree with a concentration in Journalism)**

Freshman Year		sem. hrs.	Sophomore Year		sem. hrs.
<u>ENGL 1010</u>	English Composition I	3	<u>JOUR 2220</u>	News Reporting and Copy Editing	3
<u>ENGL 1020</u>	English Composition II	3	<u>JOUR 3350</u>	News Production and Design	3
<u>COMM 2025</u>	Fundamentals of Communication	3	<u>JOUR3500</u>	Visual Storytelling	3
<u>JOUR 1500</u>	Media Literacy in a Digital World	3	<u>JOUR 3460</u>	Intro to Public Relations	3
<u>JOUR 2200</u>	Mass Communication in a Changing Society	3	<u>JOUR 3740</u>	Advertising Copy and Layout	3
Natural Science		8	<u>COMM 2090</u>	Interpersonal Communication	3
<u>MATH</u>		3	Humanities/Cultural Expression Elective		3
<u>JOUR 1110</u>		3	<u>HIST 2010</u>	Early U.S. History	3
Elective		1	<u>HIST 2020</u>	Modern U.S. History	3
			<u>POLS 1030</u>	American Government	3
Total		30	Total		30
Junior Year		sem. hrs.	Senior Year		sem. hrs.
<u>COMM 3100</u>	Communication Theory	3	<u>JOUR 3370, 3420 or 3480</u>	Photojournalism, Podcasting or Social Media Management	3
<u>COMM 3200</u>	Research Methods in Comm	3	<u>JOUR 4360</u>	Magazine Production and Design	3
<u>JOUR 3400</u>	Intro to Broadcasting	3	<u>JOUR 4820</u>	Advanced Reporting	3
<u>JOUR 3750</u>	History of Journalism	3	<u>JOUR 4830 or 4710</u>	Feature Writing or Literary Journalism	3
<u>JOUR 3770</u>	Law of Journalism	3	<u>JOUR 4930</u>	Advanced Copy Editing	3
<u>COMM 3620</u>	Intercultural Communication	3	Upper Division Social Science Elective		3
Emphasis Area Courses ¹		6	Emphasis Area Courses ¹		6
Upper Division Social Science Elective		3	Humanities/Cultural Expression Elective		3
Elective		3	Elective		3
Total		30	Total		30

- 1 Emphasis Area. Choose 12 hours of courses from one of the options (A-L) below. All 12 hours must be from the same emphasis area.
- A. Agricultural Communication: AGBE 2010, AGBE 2100, AGED 4150 (5150), AGHE 4600, JOUR 3420, JOUR 3480, JOUR 4853 (5853), JOUR 4856 (5856), JOUR 4859 (5859).
 - B. Digital Multimedia Production: COMM 3000, COMM 3120, COMM 4440, JOUR 3370, JOUR 3400, JOUR 3420, JOUR 3480, JOUR 3500, JOUR 4500 (5500), JOUR 4853 (5853).
 - C. Environmental Communication: AGBE 2010, AGBE 4120 (5120), BIOL 3120, ESS 1100, ESS 3000, ESS 3710, ESS 4100, ESS 4110, GEOG 2100, GEOL 1045, GEOL 3550, HIST 3900, SOC 3600, JOUR 3420, JOUR 3480, JOUR 4853 (5853), JOUR 4856 (5856), JOUR 4859 (5859).
 - D. Event Planning: COMM/JOUR 3030, COMM/JOUR 3040, COMM3080, JOUR 3480, JOUR 4030 (5030) or JOUR 4853 (5853).
 - E. **Film and Screen Studies: COMM 3120, FILM 3300-3309 (1), HIST 4400-4409 (1), JOUR3120, JOUR 3500, JOUR 4500 (5500), JOUR 4853 (5843), POLS 4430, THEA 3600.**
 - F. Integrated Marketing Communication: BMGT 3510, COMM 4630, JOUR 3420, JOUR 3480, JOUR 3500, JOUR 4500 (5500), JOUR 4853 (5853) /4856 (5856) /4859 (5859), MKT 3400, MKT 3430, MKT 4200, MKT 4530, MKT 4730.
 - G. Literature: ENGL 3500, ENGL 3600, ENGL 4111, ENGL (THEA) 4121, ENGL 4130, ENGL 4140, ENGL 4210, ENGL 4221, ENGL 4231, ENGL 4240, ENGL 4250, ENGL 4310, ENGL 4320, ENGL 4330, ENGL 4340, ENGL 4610, ENGL 4620, ENGL 4630, ENGL 4712, ENGL 4713, ENGL 4720, ENGL 4731, ENGL 4751, ENGL 4810, ENGL 4820, ENGL 4830, ENGL 4840, ENGL 4911, ENGL 4921, ENGL 4931.
 - H. Organizational Communication: BMGT 3510, COMM 2075, COMM 2800, COMM 3000, COMM (JOUR) 3030, COMM 3080, COMM 4420, COMM 4620, COMM 4630 (5630), JOUR 3420, JOUR 3480, JOUR 3500, JOUR 4500, JOUR 4853 (5853) /4856 (5856) /4859 (5859).
 - I. **Public Affairs and Government: COMM 2300, COMM 4540, COMM 4550, COMM 4630, JOUR 3400, JOUR 3470, JOUR 4853 (5843), POLS 1030, POLS 1100, POLS 3020, POLS 3140, POLS 3200, POLS 3330, POLS 3670.**
 - J. Sports Broadcasting: EXPW 2170, EXPW 3180, EXPW 3300, EXPW 4171, EXPW 4540, EXPW 4550, JOUR 3370, JOUR 3400, JOUR3420, JOUR 3480, JOUR 3500, JOUR 4500 (5500), JOUR 4853 (5853), JOUR 4856 (5856), JOUR 4859 (5859).
 - K. Visual Communication: ART 1250, ART 2210, ART 2220, COMM 3120, COMM 4440, JOUR 3370, JOUR 3480, JOUR 4853 (5853).
 - L. Writing—Fiction and Non-Fiction: ENGL 2400, ENGL 4430, ENGL 4440, ENGL 4450, ENGL 4531, JOUR 4870 (5870), JOUR 4871 (5871), JOUR 4872 (5872).

COMMUNICATION (COM)
Journalism/Public Relations Option
(Leading to the Bachelor of Science Degree with a concentration in Journalism)

Proposed

Freshman Year		sem. hrs.	Sophomore Year		sem. hrs.
<u>ENGL 1010</u>	English Composition I	3	<u>JOUR 2220</u>	News Reporting and Copy Editing	3
<u>ENGL 1020</u>	English Composition II	3	<u>JOUR 3350</u>	Newspaper Production and Design	3
<u>COMM 2025</u>	Fundamentals of Communication	3	<u>JOUR 3500</u>	Visual Storytelling	3
<u>JOUR 1500</u>	Media Literacy in a Digital World	3	<u>JOUR 3460</u>	Introduction to Public Relations	3
<u>JOUR 2200</u>	Mass Communication in a Changing Society	3	<u>JOUR 3740</u>	Advertising Copy and Layout	3
<u>Natural Science</u>		8	<u>COMM 2090</u>	Interpersonal Communication	3
<u>MATH</u>		3	Humanities/Cultural Expression Elective		3
<u>JOUR 1110</u>		3	<u>HIST 2010</u>	Early U.S. History	3
Elective		1	<u>HIST 2020</u>	Modern U.S. History	3
			<u>PSY 1030</u>	Introduction to Psychology	3
Total		30	Total		30
Junior Year		sem. hrs.	Senior Year		sem. hrs.
<u>COMM 3100</u>	Communication Theory	3	<u>JOUR 4360</u>	Magazine Production and Design	3
<u>COMM 3200</u>	Research Methods in Communication	3	<u>JOUR 4460</u>	Public Relations/Cases and Practices	3
<u>JOUR 3470</u>	Public Relations Writing and Production	3	<u>JOUR 3370, 3420 or 3480</u>	Photojournalism, Podcasting or Social Media Management	3
<u>JOUR 3750</u>	History of Journalism	3	<u>JOUR 4830 or 4710</u>	Feature Writing or Literary Journalism	3
<u>JOUR 3770</u>	Law of Journalism	3	<u>JOUR 4930</u>	Advanced Copy Editing	3
<u>COMM 3620</u>	Intercultural Communication	3	Upper Division Social Science Elective		3
<u>BMGT 3510</u>	Management and Organization Behavior	3	Elective		3
Emphasis Area Courses ¹		6	Emphasis Area Courses ¹		6
Elective		3	Humanities/Fine Arts Elective		3
Total		30	Total		30

- 1 Emphasis Area. Choose 12 hours of courses from one of the options (A-L) below. All 12 hours must be from the same emphasis area.
- A. Agricultural Communication: AGBE 2010, AGBE 2100, AGED 4150 (5150), AGHE 4600, JOUR 3420, JOUR 3480, JOUR 4853 (5853), JOUR 4856 (5856), JOUR 4859 (5859).
 - B. Digital Multimedia Production: COMM 3000, COMM 3120, COMM 4440, JOUR 3370, JOUR 3400, JOUR 3420, JOUR 3480, JOUR 3500, JOUR 4500 (5500), JOUR 4853 (5853).
 - C. Environmental Communication: AGBE 2010, AGBE 4120 (5120), BIOL 3120, ESS 1100, ESS 3000, ESS 3710, ESS 4100, ESS 4110, GEOG 2100, GEOL 1045, GEOL 3550, HIST 3900, SOC 3600, JOUR 3420, JOUR 3480, JOUR 4853 (5853), JOUR 4856 (5856), JOUR 4859 (5859).
 - D. Event Planning: COMM/JOUR 3030, COMM/JOUR 3040, COMM3080, JOUR 3480, JOUR 4030 (5030) or JOUR 4853 (5853).
 - E. Film and Screen Studies: COMM 3120, FILM 3300-3309 (1), HIST 4400-4409 (1), JOUR3120, JOUR 3500, JOUR 4500 (5500), JOUR 4853 (5843), POLS 4430, THEA 3600.
 - F. Integrated Marketing Communication: BMGT 3510, COMM 4630, JOUR 3420, JOUR 3480, JOUR 3500, JOUR 4500 (5500), JOUR 4853 (5853) /4856 (5856) /4859 (5859), MKT 3400, MKT 3430, MKT 4200, MKT 4530, MKT 4730.
 - G. Literature: ENGL 3500, ENGL 3600, ENGL 4111, ENGL (THEA) 4121, ENGL 4130, ENGL 4140, ENGL 4210, ENGL 4221, ENGL 4231, ENGL 4240, ENGL 4250, ENGL 4310, ENGL 4320, ENGL 4330, ENGL 4340, ENGL 4610, ENGL 4620, ENGL 4630, ENGL 4712, ENGL 4713, ENGL 4720, ENGL 4731, ENGL 4751, ENGL 4810, ENGL 4820, ENGL 4830, ENGL 4840, ENGL 4911, ENGL 4921, ENGL 4931.
 - H. Organizational Communication: BMGT 3510, COMM 2075, COMM 2800, COMM 3000, COMM (JOUR) 3030, COMM 3080, COMM 4420, COMM 4620, COMM 4630 (5630), JOUR 3420, JOUR 3480, JOUR 3500, JOUR 4500, JOUR 4853 (5853) /4856 (5856) /4859 (5859).
 - I. Public Affairs and Government: COMM 2300, COMM 4540, COMM 4550, COMM 4630, JOUR 3400, JOUR 3470, JOUR 4853 (5843), POLS 1030, POLS 1100, POLS 3020, POLS 3140, POLS 3200, POLS 3330, POLS 3670.
 - J. Sports Broadcasting: EXPW 2170, EXPW 3180, EXPW 3300, EXPW 4171, EXPW 4540, EXPW 4550, JOUR 3370, JOUR 3400, JOUR3420, JOUR 3480, JOUR 3500, JOUR 4500 (5500), JOUR 4853 (5853), JOUR 4856 (5856), JOUR 4859 (5859).
 - K. Visual Communication: ART 1250, ART 2210, ART 2220, COMM 3120, COMM 4440, JOUR 3370, JOUR 3480, JOUR 4853 (5853).
 - L. Writing—Fiction and Non-Fiction: ENGL 2400, ENGL 4430, ENGL 4440, ENGL 4450, ENGL 4531, JOUR 4870 (5870), JOUR 4871 (5871), JOUR 4872 (5872).

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

06a. Decision Sciences and Management: 1 Curriculum Change for Flight Foundations

- I. **COURSE ADDITIONS, DELETIONS, and CHANGES:** None

- II. **CURRICULUM CHANGE:** Revise the general education (Flight Foundations) curriculum for majors in Business Information and Technology.

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	4
Financial and Digital Literacy	3
Flexible General Education*	4
Total	41

*Flexible GenEd hours must be taken within the categories of Humanities, Natural Science, or Financial and Digital Literacy, but cannot exceed the upper limit for any of those categories.

- III. **JUSTIFICATION:** These changes are consistent with the new university Flight Foundations general education core requirements. Reducing the Scientific Reasoning category to 4 hours, reducing the Humanities and Cultural Expression category to 6 hours, and defining the new Financial & Digital Literacy category at a minimum of 3 hours allows our students maximum flexibility in completing their general education requirement for graduation.

- IV. **EFFECTIVE DATE:** Fall 2026

- V. **FINANCIAL IMPACT:** None

Graduation Plan

Business and Information Technology

First Semester		Second Semester	
ENGL 1010	3 hours	ENGL 1020	3 hours
MATH 1710	3 hours	MATH 1530	3 hours
Humanities/Cultural Expression	3 hours	ECON 2010	3 hours
DS 2810 (Digital Literacy)	3 hours	Gen Ed	3 hours
UBUS 1020	1 hour	COMM 2025 or PC 2500	3 hours
Gen Ed	1 hour		
Total	14 hours	Total	15 hours
Third Semester		Fourth Semester	
ACCT 2110	3 hours	DS 3810	3 hours
ECON 2020	3 hours	MKT 3400	3 hours
Natural Science	4 hours	BMGT 3510	3 hours
LAW 2810	3 hours	ECON 3610	3 hours
HIST 2010	3 hours	ACCT 2120	3 hours
Total	16 hours	Total	15 hours
Fifth Semester		Sixth Semester	
FIN 3210	3 hours	HIST 2020	3 hours
DS 3620	3 hours	DS 3520	3 hours
DS 3841	3 hours	DS 3860	3 hours
Humanities/Cultural Expression	3 hours	DS Elective	3 hours
DS 3850	3 hours	BMGT 3720	3 hours
Total	15 hours	Total	15 hours
Seventh Semester		Eighth Semester	
DS 3870	3 hours	DS 4250	3 hours
DS 4330	3 hours	DS 4550	3 hours
DS Elective	3 hours	BMGT 4930	3 hours
Elective	3 hours	Business Elective	3 hours
Elective	3 hours	Business Elective	3 hours
Total	15 hours	Total	15 hours

This is a sample graduation plan. Please work with your Academic Advisor to map out your individual plan for reaching your academic goals.

06b. Decision Sciences and Management – 1 Curriculum Change for Flight Foundations

- I. **CURRICULUM CHANGE:** Revise the general education (Flight Foundations) curriculum for majors in Business Management with a Concentration in General Management.

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	4
Financial and Digital Literacy	3
Flexible General Education*	4
Total	41

*Flexible GenEd hours must be taken within the categories of Humanities, Natural Science, or Financial and Digital Literacy, but cannot exceed the upper limit for any of those categories.

- II. **JUSTIFICATION:** These changes are consistent with the new university Flight Foundations general education core requirements. Reducing the Scientific Reasoning category to 4 hours, reducing the Humanities and Cultural Expression category to 6 hours, and defining the new Financial & Digital Literacy category at a minimum of 3 hours allows our students maximum flexibility in completing their general education requirement for graduation.
- III. **EFFECTIVE DATE:** Fall 2026
- IV. **FINANCIAL IMPACT:** None

Graduation Plan

Business Management

First Semester		Second Semester	
ENGL 1010	3 hours	ENGL 1020	3 hours
MATH 1710	3 hours	MATH 1530	3 hours
Humanities/Cultural Expression	3 hours	ECON 2010	3 hours
DS 2810 (Digital Literacy)	3 hours	Gen Ed	3 hours
UBUS 1020	1 hour	COMM 2025 or PC 2500	3 hours
Gen Ed	1 hour		
Total	14 hours	Total	15 hours
Third Semester		Fourth Semester	
ACCT 2110	3 hours	HIST 2020	3 hours
ECON 2020	3 hours	MKT 3400	3 hours
Natural Science	4 hours	BMGT 3510	3 hours
LAW 2810	3 hours	ECON 3610	3 hours
HIST 2010	3 hours	ACCT 2120	3 hours
Total	16 hours	Total	15 hours
Fifth Semester		Sixth Semester	
FIN 3210	3 hours	DS 3520	3 hours
DS 3620	3 hours	BMGT 3600	3 hours
DS 3841	3 hours	BMGT 3630	3 hours
Humanities/Cultural Expression	3 hours	Business Elective	3 hours
Business Elective	3 hours	BMGT 3720	3 hours
Total	15 hours	Total	15 hours
Seventh Semester		Eighth Semester	
BMGT 4520	3 hours	BMGT 4930	3 hours
Business Elective	3 hours	BMGT Elective	3 hours
BMGT Elective	3 hours	BMGT Elective	3 hours
Elective	3 hours	Elective	3 hours
Elective	3 hours	Elective	3 hours
Total	15 hours	Total	15 hours

This is a sample graduation plan. Please work with your Academic Advisor to map out your individual plan for reaching your academic goals.

06c. Decision Sciences and Management: 1 curriculum change for Flight Foundations

- I. **CURRICULUM CHANGE:** Revise the general education (Flight Foundations) curriculum for majors in Business and Information Technology with a concentration in Business Intelligence and Analytics

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	4
Financial and Digital Literacy	3
Flexible General Education*	4
Total	41

*Flexible GenEd hours must be taken within the categories of Humanities, Natural Science, or Financial and Digital Literacy, but cannot exceed the upper limit for any of those categories.

- II. **JUSTIFICATION:** These changes are consistent with the new university Flight Foundations general education core requirements. Reducing the Scientific Reasoning category to 4 hours, reducing the Humanities and Cultural Expression category to 6 hours, and defining the new Financial & Digital Literacy category at a minimum of 3 hours allows our students maximum flexibility in completing their general education requirement for graduation.
- III. **EFFECTIVE DATE:** Fall 2026
- IV. **FINANCIAL IMPACT:** None

Graduation Plan

Business and Information Technology

First Semester		Second Semester	
ENGL 1010	3 hours	ENGL 1020	3 hours
MATH 1710	3 hours	MATH 1530	3 hours
Humanities/Cultural Expression	3 hours	ECON 2010	3 hours
DS 2810 (Digital Literacy)	3 hours	Gen Ed	3 hours
UBUS 1020	1 hour	COMM 2025 or PC 2500	3 hours
Gen Ed	1 hour		
Total	14 hours	Total	15 hours
Third Semester		Fourth Semester	
ACCT 2110	3 hours	DS 3810	3 hours
ECON 2020	3 hours	MKT 3400	3 hours
Natural Science	4 hours	BMGT 3510	3 hours
LAW 2810	3 hours	ECON 3610	3 hours
HIST 2010	3 hours	ACCT 2120	3 hours
Total	16 hours	Total	15 hours
Fifth Semester		Sixth Semester	
FIN 3210	3 hours	HIST 2020	3 hours
DS 3620	3 hours	DS 3520	3 hours
DS 3841	3 hours	DS 3860	3 hours
Humanities/Cultural Expression	3 hours	DS Elective	3 hours
DS 3850	3 hours	BMGT 3720	3 hours
Total	15 hours	Total	15 hours
Seventh Semester		Eighth Semester	
DS 3870	3 hours	DS 4250	3 hours
DS 4330	3 hours	DS 4550	3 hours
DS Elective	3 hours	BMGT 4930	3 hours
Elective	3 hours	Business Elective	3 hours
Elective	3 hours	Business Elective	3 hours
Total	15 hours	Total	15 hours

This is a sample graduation plan. Please work with your Academic Advisor to map out your individual plan for reaching your academic goals.

06d. Decision Sciences and Management: 1 Curriculum Change for Flight Foundations

I. **CURRICULUM CHANGE:** Revise the general education (Flight Foundations) curriculum for majors in Business Management with a Concentration in Human Resource Management.

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	4
Financial and Digital Literacy	3
Flexible General Education*	4
Total	41

*Flexible GenEd hours must be taken within the categories of Humanities, Natural Science, or Financial and Digital Literacy, but cannot exceed the upper limit for any of those categories.

II. **JUSTIFICATION:** These changes are consistent with the new university Flight Foundations general education core requirements. Reducing the Scientific Reasoning category to 4 hours, reducing the Humanities and Cultural Expression category to 6 hours, and defining the new Financial & Digital Literacy category at a minimum of 3 hours allows our students maximum flexibility in completing their general education requirement for graduation.

III. **EFFECTIVE DATE:** Fall 2026

IV. **FINANCIAL IMPACT:** None

Graduation Plan

Human Resource Management

First Semester		Second Semester	
ENGL 1010	3 hours	ENGL 1020	3 hours
MATH 1710	3 hours	MATH 1530	3 hours
Humanities/Cultural Expression	3 hours	ECON 2010	3 hours
DS 2810 (Digital Literacy)	3 hours	Gen Ed	3 hours
UBUS 1020	1 hour	COMM 2025 or PC 2500	3 hours
Gen Ed	1 hour		
Total	14 hours	Total	15 hours
Third Semester		Fourth Semester	
ACCT 2110	3 hours	HIST 2020	3 hours
ECON 2020	3 hours	MKT 3400	3 hours
Natural Science	4 hours	BMGT 3510	3 hours
LAW 2810	3 hours	ECON 3610	3 hours
HIST 2010	3 hours	ACCT 2120	3 hours
Total	16 hours	Total	15 hours
Fifth Semester		Sixth Semester	
FIN 3210	3 hours	DS 3520	3 hours
DS 3620	3 hours	BMGT Elective	3 hours
DS 3841	3 hours	BMGT 3630	3 hours
Humanities/Cultural Expression	3 hours	Business Elective	3 hours
Business Elective	3 hours	BMGT 3720	3 hours
Total	15 hours	Total	15 hours
Seventh Semester		Eighth Semester	
BMGT 4120	3 hours	BMGT 4100	3 hours
BMGT 4610	3 hours	BMGT 4150	3 hours
BMGT Elective	3 hours	BMGT 4930	3 hours
Elective	3 hours	Business Elective	3 hours
Elective	3 hours	Elective	3 hours
Total	15 hours	Total	15 hours

This is a sample graduation plan. Please work with your Academic Advisor to map out your individual plan for reaching your academic goals.

06e. Decision Sciences and Management: 1 Curriculum change for Flight Foundations

- I. **CURRICULUM CHANGE:** Revise the general education (Flight Foundations) curriculum for majors in Business Management with a Concentration in Operations and Supply Chain Management.

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	4
Financial and Digital Literacy	3
Flexible General Education*	4
Total	41

*Flexible GenEd hours must be taken within the categories of Humanities, Natural Science, or Financial and Digital Literacy, but cannot exceed the upper limit for any of those categories.

- II. **JUSTIFICATION:** These changes are consistent with the new university Flight Foundations general education core requirements. Reducing the Scientific Reasoning category to 4 hours, reducing the Humanities and Cultural Expression category to 6 hours, and defining the new Financial & Digital Literacy category at a minimum of 3 hours allows our students maximum flexibility in completing their general education requirement for graduation.
- III. **EFFECTIVE DATE:** Fall 2026
- IV. **FINANCIAL IMPACT:** None

Graduation Plan

Operations and Supply Chain Management

First Semester		Second Semester	
ENGL 1010	3 hours	ENGL 1020	3 hours
MATH 1710	3 hours	MATH 1530	3 hours
Humanities/Cultural Expression	3 hours	ECON 2010	3 hours
DS 2810 (Digital Literacy)	3 hours	Gen Ed	3 hours
UBUS 1020	1 hour	COMM 2025 or PC 2500	3 hours
Gen Ed	1 hour		
Total	14 hours	Total	15 hours
Third Semester		Fourth Semester	
ACCT 2110	3 hours	HIST 2020	3 hours
ECON 2020	3 hours	MKT 3400	3 hours
Natural Science	4 hours	BMGT 3510	3 hours
LAW 2810	3 hours	ECON 3610	3 hours
HIST 2010	3 hours	ACCT 2120	3 hours
Total	16 hours	Total	15 hours
Fifth Semester		Sixth Semester	
FIN 3210	3 hours	DS 3620	3 hours
DS 3520	3 hours	BMGT 3630	3 hours
DS 3841	3 hours	Business Elective	3 hours
Humanities/Cultural Expression	3 hours	Business Elective	3 hours
ACCT 3210	3 hours	BMGT 3720	3 hours
Total	15 hours	Total	15 hours
Seventh Semester		Eighth Semester	
DS 3540	3 hours	BMGT 4410	3 hours
DS/BMGT/MET Elective	3 hours	DS 3530	3 hours
DS/BMGT/MET Elective	3 hours	DS 4530	3 hours
Elective	3 hours	BMGT 4930	3 hours
Elective	3 hours	Elective	3 hours
Total	15 hours	Total	15 hours

This is a sample graduation plan. Please work with your Academic Advisor to map out your individual plan for reaching your academic goals.

06f. Decision Sciences and Management: 1 Curriculum change for Flight Foundations

I. **CURRICULUM CHANGE:** Revise the general education (Flight Foundations) curriculum for majors in Business AI & Analytics

II.

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	4
Financial and Digital Literacy	3
Flexible General Education*	4
Total	41

*Flexible GenEd hours must be taken within the categories of Humanities, Natural Science, or Financial and Digital Literacy, but cannot exceed the upper limit for any of those categories.

III. **JUSTIFICATION:** These changes are consistent with the new university Flight Foundations general education core requirements. Reducing the Scientific Reasoning category to 4 hours, reducing the Humanities and Cultural Expression category to 6 hours, and defining the new Financial & Digital Literacy category at a minimum of 3 hours allows our students maximum flexibility in completing their general education requirement for graduation.

IV. **EFFECTIVE DATE:** Fall 2026

V. **FINANCIAL IMPACT:** None

The major map illustrates one path to comple2ng your major, based on faculty members' advice on course sequence and course schedule. This document provides general direc2on.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 14		Semester: Spring Total Credit Hours: 15	
ENGL 1010	3	ENGL 1020	3
MATH 1710	3	MATH 1530	3
Humani.es/Cultural Expression	3	ECON 2010	3
Financial/Digital Literacy DS 2810	3	Gen Ed	3
UBUS 1020	1	COMM 2025 or PC 2500	3
Gen Ed	1		
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 15	
ACCT 2110	3	HIST 2020	3
ECON 2020	3	LAW 2810	3
Science	4	BGMT 3510	3
HIST 2010	3	MKT 3400	3
ECON 3610	3	ACCT 2120	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 15	
ACCT 3150 – Acct Analytics	3	ACCT 3180 – Intermediate Financial Acct II	3
ACCT 3170 – Intermediate Financial Acct I	3	ACCT 3210 – Cost Accountng	3
FIN 3210	3	DS 3520	3
BGMT 3720	3	DS 3841	3
Humani.es/Cultural Expression	3	Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 15	
DS 3620	3	ACCT 3620 – Audi.ng I	3
ACCT 3190 – Intermediate Financial Acct III	3	ACCT Elec.ve	3
ACCT 3330 – Taxonomy	3	BGMT 4930	3
Elec.ve	3	Business Elec.ve	3
Elec.ve	3	Elec.ve	3

06g. Decision Sciences and Management: 1 Course Change

I. Course title and description changes

A. DS 2810

Change the title to:

Computer Applications in Organizations

Change description to:

Applications of computer technology to solve real-world organizational problems. Emphasis is placed on developing practical digital skills for effective communication and productivity.

Justification: We are changing the word “business” to “organizations” to better align the course with the university’s Flight Foundation’s digital literacy component.

Financial Impact:

None

Effective Date:

Fall 2026

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

07a. BIOLOGY: 1 course deletion, 2 course changes, 1 curriculum change

I. COURSE ADDITIONS: None

II. COURSE DELETIONS

Delete: BIOL 1120 General Botany

Justification: General Botany has been offered for a number of years under the course number BIOL 2310. BIOL 1120 is the old course number and should have been deleted when BIOL 2310 was created, but appears not to have been as it still appears in the 2025-2026 online undergraduate catalog.

III. COURSE CHANGES

From: BIOL 4350 Restoring Resilient Ecosystems; Lec. 3, Cr. 3.

Course Description: Exploration of changes in land use in North America and plant genetic diversity, provenance, and functional traits to aid in ecosystem

restoration.

To: BIOL 4350 Restoring Resilient Ecosystems; Lec. 3, Cr. 3.

Course Description: Prerequisite: Junior standing or consent of instructor.

Exploration of changes in land use in North America and plant genetic diversity, provenance, and functional traits to aid in ecosystem restoration.

Justification: Because of the level of material covered, we consider it best that a student be at least of junior standing to be successful in this course. No prerequisites were part of the original course description, so we have added junior standing as a prerequisite. Exceptional sophomore-level students could potentially be interested in, and do well in, the course; thus, we've also added "or consent of instructor" to allow for these cases.

IV. CURRICULUM CHANGES

Overview: In the degree map of the Microbiology concentration, make the following change to the Spring semester list of courses in the Sophomore year: change "CHEM 3020 Organic Chemistry II OR General Elective, 4 credit hours" to "General Elective, 4 credit hours." See attached degree map for the proposed change (indicated in red).

Justification: Organic Chemistry II (CHEM 3020) was included on the degree map as a potential general elective course for those students who planned to take General Biochemistry I (CHEM 4610) as their final required chemistry course in the Microbiology concentration, since both CHEM 3010 and CHEM 3020 were required prerequisites for CHEM 4610. However, the prerequisite for CHEM 4610 has changed, and CHEM 3020 is no longer required to be taken if the student made a grade of B or above in CHEM 3010. Given this, we would like to recognize in the degree map that students have more flexibility in what they take as general electives, and may no longer need to take CHEM 3020.

V. EFFECTIVE DATE: Fall 2026

VI. FINANCIAL IMPACT: None.

Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Biology

Concentration: Microbiology

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 14	
BIOL 1113 General Biology I	4	BIOL 1123 General Biology II	4
CHEM 1110 General Chemistry I	4	CHEM 1120 General Chemistry II	4
Lower-Division Math ¹	3	Lower-Division Math ¹	3
ENGL 1010 English Composition I	3	ENGL 1020 English Composition II	3
General Elective	1		
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 14	
BIOL 2310 General Botany	4	BIOL 3200 General Microbiology OR BIOL 3230 Health Science Microbiology	4
CHEM 3005 Elementary Organic Chemistry OR CHEM 3010 Organic Chemistry I	4	CHEM 3020 Organic Chemistry II OR General Elective	4
Digital & Financial Literacy	3	COMM 2025 Fundamentals of Communication OR PC 2500 Communicating in the Professions	3
HIST 2010 Early US History	3	Humanities/Fine Arts Elective	3
Humanities/Fine Arts Elective	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 14	
BIOL 3120 OR 3130 General Ecology	3-4	BIOL 3140 Cellular Biology	4
HIST 2020 Modern US History	3	BIOL 3810 General Genetics	4
Upper-Division Math ²	3	BIOL 4110 Microbial Evolution	3
Social/Behavioral Science Elective	3	General Elective	3
Microbiology Directed Elective ³	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15-16		Semester: Spring Total Credit Hours: 16-15	
BIOL 3920 Biological Communication Skills	3	BIOL 4150 Molecular Genetics	3
BIOL 4130 Environmental Microbiology	3	BIOL 4750 Medical Microbiology	4
Social/Behavioral Science Elective	3	Upper-Division Chemistry/Biology ⁴	3
Microbiology Directed Elective ³	3-4	Microbiology Directed Elective ³	2-4
General Elective	3	General Elective	1-4

Notes:

- Students must choose 2 courses from the following options: MATH 1530; MATH 1710; MATH 1830; MATH 1910.
- Students must choose 1 course from the following options: BIOL 4220; MATH 1920; MATH 3070.
- Students must choose 3 courses from the following options: BIOL 4000; BIOL 4040; BIOL 4120; BIOL 4140; BIOL 4160; BIOL 4770; BIOL 4780; BIOL 4850; BIOL 4860; BIOL 4870.
- Students must choose 1 course from the following options: BIOL 4090; CHEM 4500; CHEM 4610.

07b. BIOLOGY: 4 course additions, 5 course deletions, 5 curriculum changes

- I. COURSE ADDITIONS: We are requesting to change the number of credit hours from 3 to 4 for three of our courses: Field Botany, Mammalogy, and Herpetology. This necessitates the creation of new course numbers for each; note that Mammalogy and Herpetology are each dual-listed under both BIOL and WFS, as well as having a graduate-level section in BIOL.
 - A. BIOL 3250 Field Botany; Lec. 3, Lab. 3, Cr. 4.
Course Description: Prerequisites: BIOL 2310 and Junior Standing. Survey of regional flora (herbs, shrubs, & trees) focusing on gymnosperms and angiosperms. Emphasis on nomenclature, structural characteristics, identification of species using a dichotomous key, and characteristics of plant families.
 - B. BIOL 4920 Mammalogy; Lec. 3, Lab. 3, Cr. 4.
Course Description: Prerequisite: Junior standing. Classification, structure and function, phylogeny, and geographical distribution of mammals; emphasis on Tennessee mammals. (Same as WFS 4920.)
 - C. WFS 4920 Mammalogy; Lec. 3, Lab. 3, Cr. 4.
Course Description: Prerequisite: Junior standing. Classification, structure and function, phylogeny, and geographical distribution of mammals; emphasis on Tennessee mammals. (Same as BIOL 4920.)
 - D. BIOL 4930 Herpetology; Lec. 3, Lab. 3, Cr. 4.
Course Description: Prerequisite: Junior standing. Classification, adaptations, habits, life histories, and geographical distribution of amphibians and reptiles; emphasis on North American species. (Same as WFS 4930.)
 - E. WFS 4930 Herpetology; Lec. 3, Lab. 3, Cr. 4.
Course Description: Prerequisite: Junior standing. Classification, adaptations, habits, life histories, and geographical distribution of amphibians and reptiles; emphasis on North American species. (Same as WFS 4930.)
- II. COURSE DELETIONS: Given the changes requested in Part I, we plan to delete the current 3-credit-hour versions of Field Botany, Mammalogy, and Herpetology.
 - A. BIOL 3240 Field Botany; Lec. 2, Lab. 3, Cr. 3.
Course Description: Prerequisites: BIOL 2310 and Junior Standing. Survey of regional flora (herbs, shrubs, & trees) focusing on gymnosperms and angiosperms. Emphasis on nomenclature, structural characteristics, identification of species using a dichotomous key, and characteristics of plant families.
 - B. BIOL 4820 Mammalogy; Lec. 2, Lab. 3, Cr. 3.
Course Description: Prerequisite: Junior standing. Classification, structure and function, phylogeny, and geographical distribution of mammals; emphasis on Tennessee mammals. (Same as WFS 4820.)

C. WFS 4820 Mammalogy; Lec. 2, Lab. 3, Cr. 3.
Course Description: Prerequisite: Junior standing. Classification, structure and function, phylogeny, and geographical distribution of mammals; emphasis on Tennessee mammals. (Same as BIOL 4820.)

D. BIOL 4830 Herpetology; Lec. 2, Lab. 3, Cr. 3.
Course Description: Prerequisite: Junior standing. Classification, adaptations, habits, life histories, and geographical distribution of amphibians and reptiles; emphasis on North American species. (Same as WFS 4830.)

E. WFS 4830 Herpetology; Lec. 2, Lab. 3, Cr. 3.
Course Description: Prerequisite: Junior standing. Classification, adaptations, habits, life histories, and geographical distribution of amphibians and reptiles; emphasis on North American species. (Same as BIOL 4830.)

III. Curriculum Changes (due to changes in course numbers):

- i. Biology, Botany concentration:
 1. Substitute BIOL 3250 for BIOL 3240 in spring semester
- ii. Biology, Environmental Biology concentration:
 1. Substitute BIOL 3250 Field Botany for BIOL 3240 in spring semester
- iii. Biology, Zoology concentration:
 1. Major requirements
 - a. Update BIOL 4280 to BIOL 4380
 - b. Update BIOL 4830 to BIOL 4930
- iv. Wildlife Fisheries Science, Conservation Concentration
 1. Program Requirements
 - a. substitute BIOL 3250 for BIOL 1120

Justification: For each course, lecture credit hours will increase from 2 to 3; laboratory hours will remain the same for each course. The increase in the number of lecture hours will allow the instructors to provide more in-depth coverage of some topics, as well as cover other topics that are currently unable to be covered in lecture. For mammalogy and herpetology, this will also match their credit hours to ichthyology, one of our other vertebrate survey courses. This will lead to some changes in the degree maps for three Biology concentrations and two Wildlife and Fisheries Science concentrations; updated degree maps are attached to this memo.

Effective Date: Fall 2026

Financial Impact: None

Tennessee Tech University
Department of Biology
Biology 3250 – Field Botany Lecture and Laboratory

Lecture: BIOL 3240-001 9:00-9:50 am MWF, LSC 1135 (Lab Science Commons), 4 credit hours.

Lab Sections: PENN 202 (Pennebaker Hall)
BIOL 3240-101 12:00 pm-2:50 pm Thursday
BIOL 3240-102 3:00 pm-5:50 pm Thursday
BIOL 3240-103 12:00 pm-2:50 pm Friday

Instructor Information

Dr. Shawn Zeringue-Krosnick (“Dr. K”)
Office: Lab Science Commons 2102
Telephone: 931-372-6194
Email: skrosnick@tntech.edu (*this is the BEST way to contact me*)
Office hours: by appointment either virtually or in person

Teaching assistants:

Stephanie Oliphant, saoliphant42@tntech.edu
Eli Harris, esharris42@tntech.edu
Caitlyn Petrey, cpetrey42@tntech.edu
Lesley Foster, lffoster42@tntech.edu

Office hours for Dr. K: by appointment.

Prerequisites: BIOL 2310 and Junior Standing.

Course Information

Required Texts and References:

1. Plant family flash card set available for purchase from the TTU bookstore. Older versions/used copies are not acceptable.
2. FloraQuest App for “South Central” region, \$19.99 from Apple App Store or Google Play.
3. *Optional, recommended:* Chester, E.W., E. B. Wofford, J. Shaw, D. Estes, and D. H. Webb. 2026. *Guide to the Vascular Plants of Tennessee*, 2nd edition (not available until March 2026) University of TN Press, Knoxville. Approximately \$35.00

Course Welcome and Description: This course will introduce students to basic plant taxonomy with an emphasis on laboratory and field identification of the most common plant families in Tennessee. The principles of plant identification, classification, and fundamental rules of botanical nomenclature will be covered. The use of dichotomous keys will be employed to facilitate plant identification to genus and species. Proper plant collecting techniques will be illustrated in the field and the laboratory, and principles of herbarium curation will be addressed. Students will examine the flora of TN as it relates to the geological history of the state.

Course Objectives and Student Learning Outcomes

After completing this course, students should be able to:

1. Identify on-sight the most common herbaceous plant families in TN; identify a subset of local species on sight
2. Be capable of using a dichotomous key to identify an unknown plant specimen to genus or species
3. Be competent in the proper techniques for herbarium specimen collection and curation
4. Understand the major components of the flora of Tennessee

Major Teaching Methods: Lectures, laboratory, and field trips.

Special Instructional Platform/Materials: TTU's online instructional technology platform iLearn is used in the course. Please note that both iLearn and class emails are used as the primary means of communication with students outside of class. Assignments, study guides, lecture notes, grades, and other essential course documents will be available via iLearn. Students are responsible for checking iLearn regularly and/or checking email for messages relating to the course.

Topics to Be Covered:

- Common vascular plant families in Tennessee
- Plant morphology
- Proper use of dichotomous keys
- Standard conventions of botanical nomenclature
- Major floristic regions of TN
- Rare and invasive plant species in TN
- Plant collection techniques

Grading and Evaluation Procedures: The total points possible are **800** including both lecture and laboratory.

Graded Components

1. Weekly lab quizzes – 7 x 20 points = 140 points
2. Lab worksheets – 6 x 20 points = 120 points
3. Plant family flashcards – 100 points
4. Lecture midterm – 100 points
5. Plant collection – 200 points
6. Dichotomous key to plant families – 20 points
7. Lecture final exam – 100 points
8. Lab field trip attendance – 4 x 5 points = 20 points

Grading Scheme:

Letter Grade	Grade Range
A	90 – 100%
B	80 – 89%
C	70 – 79%
D	60 – 69%
F	59 % and below

Course Policies

Student Academic Misconduct Policy: Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, alumni, and the employers of Tennessee Tech graduates. The student academic misconduct policy describes the definitions of academic misconduct and policies and procedures for addressing academic misconduct at Tennessee Tech. For details, view Tennessee Tech's Policy 217 – [Student Academic Misconduct at Policy Central](#).

Attendance Policy: Students who come to class every day perform better on exams than students who routinely skip class. Missed quizzes cannot be made up without a valid excuse. If you have a legitimate problem (health emergency, etc.) you must 1) obtain a documented excuse and 2) contact Dr. K within **3 calendar days** of the absence to discuss the situation. **All excuses will be verified.** There are no “makeup weeks” in the lecture or laboratory. Material used in lab is perishable and will only be available for a short period of time; thus, labs and quizzes cannot be set up for a student to make up at a later time. Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), should contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Cell Phone Policy: *Silence them before you come in the classroom or the laboratory!* The use of cell phones and other electronic devices during class or laboratory is an inappropriate distraction and shows disrespect for your instructor as well as for your fellow students. The owner of any such ringing device will be dismissed from that class session (this **includes** laboratories and exams).

Disability Accommodation: Students with a disability requiring accommodations should contact the Accessible Education Center (AEC). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, Room 112; phone 931-372-6119. For details, view the Tennessee Tech's Policy 340 – [Services for Students with Disabilities at Policy Central](#).

Additional Resources

Technical Help: If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance. If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance. For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

Tutoring: The University provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Counseling Center: The Counseling Center offers brief, short-term, solution-focused therapeutic interventions for Tennessee Tech University students. The staff of the Counseling Center is available to assist students with their personal and social concerns in hopes of helping them achieve satisfying educational and life experiences. To learn more or schedule an appointment, visit the [Counseling Center website](#).

Health Services: Health Services offers high-quality, affordable care that is accessible and promotes the health and wellness of our Tennessee Tech community. Visit the [Health Services](#) website to learn more.

COURSE SCHEDULE

Wed. 1/21 (*no class Monday 1/19 MLK Day*)

Lecture: Introduction to course

Lab: Morphology

Mon. 1/26, Wed. 1/28

Lecture: Morphology

Lab: Learning to use a dichotomous key and the FloraQuest app

Mon. 2/2 Weds. 2/4

Lecture: Family group 1

Lab: Quiz 1 (morphology), plant family activities

Family group 1: Lycopodiaceae, Ophioglossaceae, Thelypteridaceae, Aspleniaceae, Dryopteridaceae

Mon. 2/9, Weds. 2/11

Lecture: Family group 2

Lab: Quiz 2 (family group 1); Floral formulas, plant family activities, review game

Family group 2: Nymphaeaceae, Magnoliaceae, Lauraceae, Aristolochiaceae, Liliaceae, Amaryllidaceae

Mon. 2/16, Weds. 2/18

Lecture: Family group 3

Lab: Quiz 3 (family group 2); plant family activities, review game

Family group 3: Iridaceae, Orchidaceae, Alismataceae, Commelinaceae, Juncaceae, Cyperaceae

Mon. 2/23, Weds. 2/25

Lecture: Family group 4

Lab: Quiz 4 (family group 3); plant family activities, review game

Family group 4: Poaceae, Ranunculaceae, Papaveraceae, Saxifragaceae, Brassicaceae, Malvaceae

Mon. 3/2, Weds. 3/4

Lecture: Family group 5

Lab: Quiz 5 (family group 4); plant family activities, review game

Family group 5: Euphorbiaceae, Fabaceae, Rosaceae, Caryophyllaceae, Polygonaceae, Ericaceae

Mon. 3/9, Weds. 3/11

Lecture: Family group 6

Lab: Quiz 6 (family group 5), plant family activities, review game

Family group 6: Boraginaceae, Apocynaceae, Lamiaceae, Solanaceae, Apiaceae, Asteraceae

Spring Break, no class 3/16-3/18

Mon. 3/23, Weds. 3/25

Lecture: 3/23 - Midterm exam

Lab: Field trip 1; Flash cards due

Mon. 3/30, Weds. 4/1 (*no class April 2-3*)

Lecture: How to make plant collections; using Survey123, Quiz 7 (family group 6)

Lab: No lab, Good Friday holiday ***Optional Saturday 4/4 field trip with Dr. K**

Mon. 4/6, Weds. 4/8

Lecture: Plant taxonomy and botanical nomenclature

Lab: Field trip 2

Mon. 4/13, Weds. 4/15

Lecture: TN floristic regions

Lab: Field trip 3; Dichotomous key due

Mon. 4/20, Weds. 4/22 (*Wildflower pilgrimage April 22-25*)

Lecture: Rare and invasive species in TN

Lab: Field trip 4

Mon. 4/27, Weds. 4/29

Lecture: Work on plant collections, meet with Dr. K to go over collection (by appointment)

Lab: Work on plant collections during lab

Final (revised) plant collection must be turned in to **PENN 204** by **Monday 5/4 at 5 PM.**

Lecture Final: 8:00 - 10:00 Tuesday, May 5 (cumulative)

**Tennessee Tech University
Biology Department**

**BIOL 4920-001, -101, 5920-001, -101, WFS 4920-001, -101: Mammalogy
Lecture TR 8:00-9:15 PENN 211, Lab M 3:00-5:50 PENN 318, 4 credit hours, Fall 2026**

Instructor: Dr. Brian Carver

Office: Pennebaker Hall 301

Office Hours: MW 8:00-11:00, and T 9:00-11:00 or by appointment

E-mail: bcarver@tntech.edu (preferred contact method), Telephone: 372-3127

PREREQUISITES: Junior standing.

TEXTS: Vaughan, T.A., J.M. Ryan, and N.J. Czaplewski. 2015. Mammalogy 6th edition. Jones & Bartlett. Sudbury, MA. (Lecture – available as e-book only)

Schwartz, C.W., and E.R. Schwartz. 2016. The wild mammals of Missouri. 3rd revised edition. University of Missouri Press, Columbia, MO. (Lab)

COURSE DESCRIPTION: Classification, structure and function, phylogeny, and geographical distribution of mammals; emphasis on Tennessee mammals.

COURSE OBJECTIVES: Students who successfully complete BIOL 4820/5820/WFS 4820 should be able to describe shared features of mammals, be knowledgeable of basic aspects of mammalian physiology and reproduction, describe mammalian biodiversity worldwide, identify mammals native to Tennessee by skins or skulls, and be familiar with many techniques used for studying or managing mammal populations.

MAJOR TEACHING METHODS: Lectures and laboratory exercises

SPECIAL INSTRUCTIONAL PLATFORM/MATERIALS: Supplemental course information will be provided via iLearn (<https://elearn.tntech.edu>).

Other resources:

Mammalian Species accounts: <https://www.mammalsociety.org/publications/mammalian-species>

The American Society of Mammalogists: <http://mammalsociety.org/>

TOPICS TO BE COVERED: See tentative lecture and lab schedules below.

GRADING AND EVALUATION PROCEDURES: Exams will be based on lecture material, so you need to attend class. All students will be required to take the three lecture exams. In addition, graduate students will be required to develop a species account modeled after *Mammalian Species* for a taxa not yet covered by the publication. Exams will be multiple-choice, matching, true-false, short answer and essay. The second and third (final) exam will cover new material (approximately 75% of the exams) and comprehensive material (approximately 25% of the exams). There is no makeup for a missed exam without an excuse. Failure to take an exam on time will result in a grade of zero for the exam. Grades will be allocated in the following manner:

Undergraduate		Graduate	
<u>Item</u>	<u>Points</u>	<u>Item</u>	<u>Points</u>
Lecture Exam 1	100	Lecture Exam 1	100
Lecture Exam 2	150	Lecture Exam 2	150
Lecture Exam 3	150	Lecture Exam 3	150
Lab Exam 1	100	Lab Exam 1	100
Lab Exam 2	100	Lab Exam 2	100
Lab Exam 3	100	Lab Exam 3	100
<u>Lab Exam 4</u>	<u>100</u>	Lab Exam 4	100
Total	800	<u>Species Account</u>	<u>200</u>
		Total	1000

A	720-800	A	900-1000
B	640-719	B	800-899
C	560-639	C	700-799
D	480-559	D	600-699
F	<480	F	<600

STUDENT ACADEMIC INTEGRITY POLICY: Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and the key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding violations of academic integrity. All students are required to read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

ATTENDANCE POLICY: Attendance is required. Attendance will be taken at each class period. A student may have three unexcused absences with no penalty. One (1) percentage point will be deducted from your final average for each unexcused absence beyond the three allowed. Exams must be taken at the scheduled time, unless very unusual circumstances prevent it (see makeup policy below). **There are no make-ups for missed lab exams.**

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

MAKE-UP POLICY AND ACADEMIC HONESTY: An exam may only be made up in the following rare instances: a serious, incapacitating illness (this requires a letter from the attending physician); an official university excuse, or a personal or family emergency (this requires documentation). A student who has missed an exam for one of these validated reasons must notify the instructor within 48 hours of the exam, or a grade of "0" will be assigned for the missed exam, and no makeup will be given. Cheating, plagiarism, or other forms of academic dishonesty will not be tolerated, and may result in a grade of zero for the exam or assignment in question or for the entire course, as well as administrative disciplinary action. **Written assignments are due at the beginning of class** on the assigned date, unless otherwise specified. **Late assignments will be penalized** one letter grade (10%) for each school day they are late.

SPECIAL ACCOMMODATIONS: Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

COMMUNICATION: Please be professional in all of your communication with the instructor and with your classmates at all times. Respect the views of others even if you disagree. Remember to “disagree without being disagreeable”. Use proper grammar, spelling, and punctuation in e-mail correspondence with me. **I will not respond to e-mails that fail to begin with a salutation, use “texting speak”, lack capitalization, or other similar omissions. Remember that the habits you are creating will stick with you and poor grammar may harm your employment ability.** I check my e-mail messages generally several times each day – especially on days when I have office hours. I will do my best to respond promptly to reasonable questions or requests.

TECHNOLOGY: I am aware that computers and cell phones can be greater hindrances than helps in the classroom. I also know that some students prefer to take notes on their computers. I have no problem with the use of computers in class to take notes, but if your use of a computer becomes a nuisance to me or other students, you will be asked to turn off the computer. If you fail to comply you will be asked to leave the classroom. Cell phones should be silenced and out of sight during class – please respect me and your classmates enough to follow these basic principles.

AI POLICY STATEMENT: NOT PERMITTED IN THIS COURSE

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course.

ADDITIONAL RESOURCES

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance. If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

Tutoring

The university provides free tutoring to all Tennessee Tech students through the Learning Center within the Volpe Library. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

COUNSELING AND HEALTH SERVICES

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Emergency Preparedness Protocols

Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#).

Tentative Lecture Schedule

Week beginning:	Subject:	Chapters:
August 20	History of Mammalogy, Intro to Mammalogy	1
August 24	History of Mammalogy, Intro to Mammalogy	1
August 31	Characteristics, Zoogeography	3, 25
September 7	Zoogeography (cont'd), Classification	25, 4
September 14	Monotremata, Metatheria	5, 6
September 21	Eutherian Intro, Afrosorids etc., Paenungulata	7-9
September 28	Cingulata etc., Dermoptera & Scandentia, Primates	10-12
October 5	Rodentia & Lagomorpha, Erinaceomorpha, etc.	13, 14
October 12	Fall Break – catch up	TBD
October 19	Chiroptera, Carnivora	15, 16
October 26	Perissodactyla, Artiodactyla	17-18
November 2	Cetacea & Election Day	19
November 9	Reproduction	20
November 16	Physiology, Echolocation	21, 22
November 23	Behavior	24
November 30	Diseases	28

FINAL EXAM THURSDAY DECEMBER 10, 8:00-10:00

Tentative Laboratory Schedule

Date:	Subject:
August 24	Small mammal preparation, field notes, cataloging and labeling
August 31	Chiroptera, Soricidae, and Talpidae
September 7	Labor Day Holiday: No Lab
September 14	Collecting Methods
September 21	Study Day
September 28	Lab Exam 1 (Chiroptera, Soricidae, and Talpidae)
October 5	Leporids, Squirrels, and Ungulates
October 12	Rodents (excluding squirrels)
October 19	Study Day
October 26	Lab Exam 2 (Leporids, Squirrels, and Ungulates)
November 2	Study Day
November 9	Lab Exam 3 (Rodents)
November 16	Carnivores & Marsupials
November 23	Study Day
November 30	Lab Exam 4 (Carnivores & Marsupials + Comprehensive Skins)

BIOL/WFS 4930/5930 – Syllabus (Spring 2026)
Herpetology (4 credit hours)

Instructor: Dr. Joshua M Hall
Department of Biology
Pennebaker Hall 319
Office Hours: by appointment

E-mail: jmhall@tntech.edu
Website: www.devoeco.org

Meeting time and place: Lecture: MWF XXX
Location: TBD
Laboratory: TBD; TBD

Prerequisites: BIOL 1113 – General Biology I; BIOL 1123 - General Biology II

Attribute: Junior Standing

Course description: This course introduces students to the biology of reptiles and amphibians including their evolution, ecology, anatomy, physiology, reproduction, and conservation.

Textbook: The textbook is **required**. We will use it extensively in the laboratory: *A Field Guide to Reptiles and Amphibians of Eastern and Central North America*. 2016. Powell, Conant, Collins (4th edition is recommended but 3rd edition will suffice)

Course Learning Objectives for Lecture:

- Gain appreciation for the diversity of extinct and extant reptiles and amphibians across regional and global scales, and across geological time
- Identify critical ecological and evolutionary forces which drive patterns of distribution of reptiles and amphibians across spatial and temporal scales
- Develop a broad understanding of the basic anatomy and physiology of reptiles and amphibians
- Relate anatomical and physiological features to habitat use and life history strategies
- Discuss modern threats to reptile and amphibian biodiversity such as emerging infectious diseases, climate change, urbanization, and habitat destruction as well as strategies to conserve species at regional and global scales

Course Learning Objectives for the Laboratory:

- Learn the basic anatomy of reptiles and amphibians including external diagnostic traits used for species identification
- Learn to identify the most common reptile and amphibian species in Tennessee and the southeastern United States via photographs, live specimens, and preserved specimens
- Learn basic techniques in field herpetology which are commonly used to study reptile and amphibians in the wild

Accommodations: Students requiring accommodations should contact the Accessible Education Center (AEC). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, Room 112; phone 931-372-6119. For details, view the Tennessee Tech's Policy 340 – [services for students with disabilities at policy central](#).

Grades: Your grade will be based on the number of total points you earn out of 670 (see the breakdown below). Grades will be based on four exams, eleven quizzes, and attendance/participation grade. The grading scale for the course will be the standard 90/80/70/60 scale; however, I reserve the right to curve grades toward a normal distribution at my discretion. All grades will be posted on iLearn.

Herpetology Course Grading (may be amended by the instructor at any time)

Assessment	Points	Notes
<i>Lecture</i>		
Exam 1	100	
Exam 2	100	
Exam 3	100	
Exam 4 (Final)	100	
<i>Laboratory</i>		
Lab quizzes	120	8 quizzes; 15 pts each
Lab exams	150	2 lab exams; 75 pts each
Total Points	670 (A ≥ 585; B ≥ 520; C ≥ 455; D ≥ 390)	

Exams: The exams will consist of a variety of types of questions (short answer, matching, fill in the blank, etc), including at least one essay. Each exam will cover roughly one quarter of the course. *Exams will cover material covered since the previous exam. Makeup exams will only be given to those who have a valid excuse.* I will re-evaluate exam questions and your answers if you point out a potential mistake in my grading; however, mistakes must be brought to my attention within 1 week after you receive your exam score.

Lab Quizzes: Quizzes will consist of either short answer, multiple choice, and/or true-false questions. All quizzes will be given at the beginning of each lab. Make-up quizzes will not be allowed without a valid excuse of absence. You are welcome to visit my office to discuss your quizzes and ask me questions about the answers after you see your grade. However, if mistakes are not pointed out to me within 2 weeks after a quiz, I will not change the grading.

Lab Exams: Two lab exams will be given throughout the semester. These will consist of multiple question types and will cover information delivered during lab. Makeup exams will only be given to students with a valid, university-approved excuse.

Academic integrity: Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding academic integrity violations. All students must read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Use of cell phones/electronic devices during testing: When taking exams and quizzes, your cell phone and other electronic devices MUST be stored in your pocket, your purse, your book bag, or some other closed storage. Places that are unacceptable include but are not limited to your lap, the desktop, or in your hands. If I see you with a cell phone during an exam or quiz, I will take your exam/quiz and you will get a ZERO.

AI policy statement: Not Permitted in this Course: In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course.

Schedule of lecture topics

Introduction to Herpetology
Evolutionary History
Classification and Diversity

Exam 1

Temperature and water relations
Energetics and performance
Body support and locomotion
Movement and orientation

Exam 2

Communication
Reproduction and life history
Mating systems and sexual selection

Exam 3

Feeding
Foraging Ecology
Conservation

Exam 4

Schedule of laboratory topics

Lab 1: Anatomy of Amphibians I
Lab 2: Anatomy of Amphibians II (quiz 1)
Lab 3: Frog identification and biodiversity (quiz 2)
Lab 4: Frog field lab
Lab 5: Salamander identification I (quiz 3)
Lab 6: Salamander field lab
Lab 7: Salamander identification II (quiz 4)
Lab 8: Lab Exam 1: Amphibians
Lab 9: Anatomy of Reptiles I
Lab 10: Anatomy of Reptiles II (quiz 5)
Lab 11: Turtle identification and biodiversity (quiz 6)
Lab 12: Snake identification and biodiversity (quiz 7)
Lab 13: Lizard identification and biodiversity (quiz 8)
Lab 14: Reptile field lab
Lab 15: Lab Exam 2: Reptiles

This syllabus may be amended by the instructor verbally or in writing at any time during the course. It is the student's responsibility to be aware of any changes.

Additional Resources

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Emergency Preparedness Protocols: Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#).

Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Biology

Concentration: Botany

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 14	
BIOL 1113 General Biology I	4	BIOL 1123 General Biology II	4
CHEM 1110 General Chemistry I	4	CHEM 1120 General Chemistry II	4
MATH 1710 Pre-Calculus Algebra	3	MATH 1530 Introductory Statistics OR MATH 1830 Applied Calculus	3
ENGL 1010 English Composition I	3	ENGL 1020 English Composition II	3
General Elective	1		
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 13		Semester: Spring Total Credit Hours: 17	
BIOL 2310 General Botany	4	BIOL 3130 General Ecology	4
Digital & Financial Literacy	3	GEOL 1040 Physical Geology	4
MATH 3070 Statistical Methods I OR BIOL 4220 Biostatistics	3	COMM 2025 Fundamentals of Communication OR PC 2500 Communicating in the Professions	3
BIOL 3010 Principles of Evolution	3	HIST 2010 Early US History	3
		Humanities/Fine Arts Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 15	
AGHT 3450 Dendrology	3	BIOL 3140 Cellular Biology	4
CHEM 3005 Elementary Organic Chemistry	4	BIOL 3240 Field Botany	4
HIST 2020 Modern US History	3	BIOL 3810 General Genetics	4
Social/Behavioral Science Elective	3	Social/Behavioral Science Elective	3
Humanities/Fine Arts Elective	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 14		Semester: Spring Total Credit Hours: 16	
BIOL 3920 Biological Communication Skills	3	BIOL 4320 Plant Physiology	3
BIOL 4310 Plant Anatomy	3	BIOL 4982 Senior Thesis II in Botany	1
BIOL 4330 Plant Ecology	3	Botany Directed Electives ¹	5-10
BIOL 4981 Senior Thesis I in Botany	1	General Electives	2-7
Botany Directed Elective ¹	4		

Notes:

- Students must choose 4 courses from the following options: AGRN 2400; BIOL 3200 OR BIOL 3230 (only one of the two will count toward the directed elective requirements); BIOL 3330; BIOL 4150; BIOL 4160; BIOL 4190; BIOL 4200; BIOL 4210; BIOL 4340; BIOL 4350; BIOL 4360; GEOG 4510; GEOG 4511; GEOL 3550; WFS 4730.

Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Biology

Concentration: Environmental Biology

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 14		Total Credit Hours: 14	
BIOL 1113 General Biology I	4	BIOL 1123 General Biology II	4
CHEM 1110 General Chemistry I	4	CHEM 1120 General Chemistry II	4
MATH 1710 Pre-Calculus Algebra	3	MATH 1530 Introductory Statistics	3
ENGL 1010 English Composition I	3	ENGL 1020 English Composition II	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 17		Total Credit Hours: 16	
BIOL 2310 General Botany	4	GEOL 1045 Earth Environ Resrces Soc	4
Digital & Financial Literacy	3	HIST 2020 Modern US History	3
GEOL 1040 Physical Geology	4	COMM 2025 Fundamentals of Communication OR PC 2500 Communicating in the Professions	3
HIST 2010 Early US History	3	Social/Behavioral Science Elective	3
Humanities/Fine Arts Elective	3	Humanities/Fine Arts Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 16		Total Credit Hours: 16	
BIOL 3130 General Ecology	4	BIOL 3810 General Genetics	4
BIOL 3140 Cellular Biology	4	BIOL 3530 Animal Physiology OR BIOL 4320 Plant Physiology	3
BIOL 3200 General Microbiology	4	MATH 3070 Statistical Methods I OR BIOL 4220 Biostatistics	3
CHEM 3005 Elementary Organic Chemistry	4	ESS 3710 Chemistry and the Environment	3
		Social/Behavioral Science Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 14		Total Credit Hours: 13	
BIOL 3920 Biological Communication Skills	3	BIOL 3240 Field Botany	4
BIOL 4610 Invertebrate Zoology OR BIOL 4840 Limnology	3	Vertebrate Biology ²	3-4
Environmental Biology Directed Electives ¹	8	Environmental Biology Directed Elective ¹	4
		General Electives	1-2

Notes:

1. Students must choose 3 courses from the following options: AGRN 2400 and 2415; BIOL 4330; GEOG 3200; GEOG 4410; GEOL 4150; GEOL 4711; WFS 4730; WFS 4870 OR GEOG 4510 (only one of the two will count toward the directed elective requirements).
2. Students must choose 1 course from the following options: BIOL 4630; BIOL 4810; BIOL 4820; BIOL 4830.

Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Biology

Concentration: Zoology

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 13	
BIOL 1113 General Biology I	4	BIOL 1123 General Biology II	4
ENGL 1010 English Composition I	3	ENGL 1020 English Composition II	3
GEOL 1040 Physical Geology OR PHYS 2010 Algebra-Based Physics I	4	MATH 1530 Introductory Statistics OR MATH 1830 Applied Calculus	3
MATH 1710 Pre-Calculus Algebra	3	Humanities/Fine Arts Elective	3
General Elective	1		
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 14	
BIOL 2310 General Botany	4	BIOL 3130 General Ecology	4
CHEM 1110 General Chemistry I	4	CHEM 1120 General Chemistry II	4
Digital & Financial Literacy	3	COMM 2025 Fundamentals of Communication OR PC 2500 Communicating in the Professions	3
HIST 2010 Early US History	3	HIST 2020 Modern US History	3
Humanities/Fine Arts Elective	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 14	
BIOL 3010 Principles of Evolution	3	BIOL 3140 Cellular Biology	4
BIOL 3200 General Microbiology OR BIOL 3230 Health Science Microbiology	4	BIOL 3810 General Genetics	4
CHEM 3005 Elementary Organic Chemistry OR CHEM 3010 Organic Chemistry I	4	BIOL 3920 Biological Communication Skills	3
MATH 3070 Statistical Methods I OR BIOL 4220 Biostatistics	3	Social/Behavioral Science Elective	3
Social/Behavioral Science Elective	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 15	
BIOL 3330 Entomology OR BIOL 4610 Invertebrate Zoology	3	BIOL 3530 Animal Physiology	3
Zoology Directed Electives ¹	6-8	Zoology Directed Electives ¹	6-8
General Electives	4-6	General Electives	4-6

Notes:

1. Students must choose 4 courses from the following options: BIOL 3040; BIOL 4000; BIOL 4070; BIOL 4080; BIOL 4210; BIOL 4230; BIOL 4630; BIOL 4650; BIOL 4810; BIOL 4820; BIOL 4830; CHEM 4500 OR CHEM 4610 (only one of these two courses may count toward Zoology directed elective credit); GEOL 3350; WFS 4730. NOTE: At least two of the directed electives must be selected from the four vertebrate zoology courses: BIOL 4630; BIOL 4810; BIOL 4820; BIOL 4830.

Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Wildlife and Fisheries Science

Concentration: Conservation Biology

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 14	
BIOL 1113 General Biology I	4	BIOL 1123 General Biology II	4
ENGL 1010 English Composition I	3	ENGL 1020 English Composition II	3
MATH 1710 Pre-Calculus Algebra	3	MATH 1530 Introductory Statistics OR MATH 1830 Applied Calculus	3
Physical Science ¹	4	Physical Science ¹	4
General Elective	1		
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 16	
BIOL 2310 General Botany	4	WFS 3130 General Ecology	4
GEOL 1040 Physical Geology	4	COMM 2025 Fundamentals of Communication OR PC 2500 Communicating in the Professions	3
Digital & Financial Literacy	3	HIST 2020 Modern US History	3
HIST 2010 Early US History	3	Humanities/Fine Arts Elective	3
Humanities/Fine Arts Elective	3	Social/Behavioral Science Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 14-15	
BIOL 3330 Entomology OR BIOL 4610 Invertebrate Zoology	3	BIOL 3240 Field Botany	4
BIOL 3920 Biological Communication Skills	3	BIOL 3100 Genetics OR BIOL 3810 General Genetics	3-4
BIOL 4330 Plant Ecology OR BIOL 4340 Plant-Animal Interactions	3	WFS 4810 Ichthyology OR WFS 4830 Herpetology	4
MATH 3070 Statistical Methods I OR BIOL 4220 Biostatistics	3	Conservation Biology Directed Elective ²	3
Social/Behavioral Science Elective	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15-16		Semester: Spring Total Credit Hours: 12-14	
WFS 4500 National Wildlife Policy	3	WFS 4730 Conservation Biology	3
WFS 4630 Ornithology OR WFS 4820 Mammalogy	3-4	WFS 4740 Wildlife Principles	2
WFS 4700 Habitat Management	3	Conservation Biology Directed Elective ²	3
WFS4711 Fisheries Management	3	General Electives	4-6

Conservation Biology Directed Elective ²	3		
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Notes:

1. Students must choose 2 courses from the following options: AGRN 2400; CHEM 1010 OR CHEM 1110 (only one of the two will count toward the physical science requirements); CHEM 1020 OR CHEM 1120 (only one of the two will count toward the physical science requirements); GEOG 2100 OR GEOL 1045 (only one of the two will count toward the physical science requirements); PHYS 2010; PHYS 2020.
2. Students must choose 3 courses from the following options: AGHT 3450; BIOL 3010; BIOL 3530; BIOL 4320; BIOL 4780; BIOL 4840; ESS 4100; ESS 4110; GEOG 4510 OR WFS 4870 (only one of the two will count toward the directed elective requirements); WFS 4650; WFS 4770; WFS 4800.

Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Wildlife and Fisheries Science

Concentration: Wildlife Science

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 14		Semester: Spring Total Credit Hours: 14	
BIOL 1113 General Biology I	4	BIOL 1123 General Biology II	4
ENGL 1010 English Composition I	3	ENGL 1020 English Composition II	3
MATH 1710 Pre-Calculus Algebra	3	MATH 1530 Introductory Statistics OR MATH 1830 Applied Calculus	3
Physical Science ¹	4	Physical Science ¹	4
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 16	
BIOL 2310 General Botany	4	WFS 3130 General Ecology	4
GEOL 1040 Physical Geology	4	COMM 2025 Fundamentals of Communication OR PC 2500 Communicating in the Professions	3
Digital & Financial Literacy	3	HIST 2020 Modern US History	3
HIST 2010 Early US History	3	Humanities/Fine Arts Elective	3
Humanities/Fine Arts Elective	3	Social/Behavioral Science Elective	3
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 16	
AGHT 3450 Dendrology	3	BIOL 3240 Field Botany	4
BIOL 3100 Genetics OR BIOL 3810 General Genetics	3-4	WFS 3500 Wildlife Law Enforcement	3
MATH 3070 Statistical Methods I OR BIOL 4220 Biostatistics	3	WFS 4660 Wild Bird Ecology	3
Wildlife Science Directed Elective ²	3	WFS 4740 Wildlife Principles	2
Social/Behavioral Science Elective	3	WFS 4830 Herpetology	4
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 13	
BIOL 3920 Biological Communication Skills	3	WFS 4790 Wildlife Techniques ³	6
WFS 4500 National Wildlife Policy	3	General Electives	4
WFS 4670 Wild Mammal Ecology	3	Wildlife Science Directed Elective ²	3
WFS 4700 Habitat Management	3		
WFS 4711 Fisheries Management	3		

Notes:

1. Students must choose 2 courses from the following options: AGRN 2400; CHEM 1010 OR CHEM 1110 (only one of the two will count toward the physical science requirements); CHEM 1020 OR CHEM 1120 (only one of the two will count toward the physical science requirements); GEOG 2100 OR GEOL 1045 (only one of the two will count toward the physical science requirements); PHYS 2010; PHYS 2020.
2. Students must choose 2 courses from the following options: BIOL 3010; BIOL 3530; BIOL 4330; ESS 4100; ESS 4110; GEOG 4510 OR WFS 4870 (only one of the two will count toward the directed elective requirements); WFS 3550; WFS 4640; WFS 4730; WFS 4770; WFS 4810.
3. WFS 4790 is a field-based class taught only during summer.

07c. BIOLOGY: 1 New Course**I. COURSE ADDITIONS, DELETIONS AND CHANGES:**Addition

BIOL 1001 Foundations in Biology: Lecture 1; Credit 1

Course Description: An introduction to the successful study of Biology and Wildlife & Fisheries Science, designed to introduce new students to the Biology Department at Tennessee Tech, including the choices of majors, resume-building opportunities, and student organizations within the department. The course will explore basic concepts within the field of biology, which will provide a foundation for future biology coursework and development for a successful career.

- II. JUSTIFICATION: This course is meant for incoming freshmen students, similar to the previous First-Year Connections (UNIV 1020) courses. It is being implemented as part of a university-wide initiative to create discipline-specific orientation courses for first-year (non-transfer) students.
- III. EFFECTIVE DATE: Fall 2026.
- IV. FINANCIAL IMPACT: None.

Foundations in Biology - BIOL 1001

Fall 2026

Instructor: Dr. Nikki Carter **Phone:** 931-372-6195 **Email:** nacarter@tntech.edu
Office: Pennebaker Hall 114 **Office Hours:** By appointment

Textbook: None

Required Hardware/Software Access:

Students will need access to computer, laptop, or tablet with network and video/audio capability. You will also need to regularly access email and iLearn, along with having the ability to search for and download materials.

Major Teaching Methods: Class will be conducted online. Materials will be provided, and assessments submitted, through iLearn, email, and other websites.

Instructional Platform: This course is web-supported using the iLearn system.

Course Description and Objectives:

BIOL 1001 is an introduction to the successful study of Biology and Wildlife & Fisheries Science at Tennessee Tech. This course is designed to introduce new students to the Biology Department at Tennessee Tech, including the choices of majors, resume-building opportunities, and student organizations within the Biology Department. Students in this course also will explore basic concepts within the field of biology, which will provide a foundation for future biology coursework and development for a successful career. In meeting the requirements of the course, the student also will exercise basic computer skills that are essential in advanced biology courses, prepare documents necessary for a job search, discover opportunities to improve marketability, and practice scientific reasoning applicable in professional biology positions.

All content, quizzes, and assignments are available from the first day of class. You may work at your own pace, but you must complete each assessment by its due date. Due dates for each can be seen on iLearn (under Calendar, Assignments and/or Quizzes).

Late Assignment Policy: ALL assignments must be completed and submitted by the assigned date and time. A suggestion and/or word of warning: Complete and submit assignments in a timely manner; if you wait until the last minute and your computer fails, you lose internet connection, your dog throws up on your homework, etc., you will receive a zero. No late submissions will be allowed.

Student Learning Outcomes and Assignments (see table below):

1. Prepare for your undergraduate career
 - a. Become familiar with a chosen major and concentration
 - b. Discover the roadmap for coursework
 - c. Consider alternate career options
2. Exhibit professional communication skills
 - a. Demonstrate acceptable email communication
3. Discover resume-building activities
 - a. Compare opportunities in student-led organizations
 - b. Find relevant undergraduate opportunities (internships, volunteering, job shadowing)
 - c. Demonstrate an understanding of the NACE career competencies and their relevance to career readiness by completing the requirements of the Gold Career Readiness Certificate
4. Demonstrate proper use and citation of resources, including artificial intelligence
 - a. Highlight the differences between peer-reviewed, primary research articles and other media
 - b. Exhibit knowledge of AI and its ethical use
5. Review steps and examples of the scientific method and research
 - a. Identify steps and variables of the scientific method
 - b. Display knowledge of a research article summary and critique

LEARNING OUTCOME	ASSESSMENTS (in order of due date)	POINTS
1	The Biology Department	20
3	Getting Involved	20
2	Professional Communication	20
1	Navigating the Curriculum (i.e., Degree Works)	20
4	Plagiarism & Integrity	10
4	Guide to AI	20
5	The Scientific Method	20
5	Research Defined	10
3	Undergraduate Research Opportunities	20
4	APA Citation Guide	10
5	Research Article: Summary vs Critique	20
3	Internships	20
1,3	Gold Career Readiness Certificate (3 parts)	90
	Total Assessment Points	300

Grading: Students will be awarded grades based on total points earned out of the 300 possible points.

Course Grades: 270-300 = A; 240-269 = B; 210-239 = C; 180-209 = D; <180 = F

AI POLICY STATEMENT: Permitted when assigned in this course with attribution.

In this course, Generative AI resources are allowed to be used for specific assignments or within set parameters, as designated by the instructor. To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

To indicate the use of a Generative AI resource, a student should include the following statement in their assignments: "The author(s) acknowledge the utilization of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was employed in the following manner(s) within this assignment [e.g., brainstorming, grammatical correction, citation, specific section of the assignment]."

Proper citation guidelines for AI sources can be found on [Purdue Owl](#).

Academic Dishonesty: Cheating, plagiarism, or other forms of academic dishonesty (including unauthorized use of AI) will not be tolerated and may result in a grade of zero for the item in question, as well as administrative disciplinary action.

University Plagiarism Policy: (Tennessee Tech University Student Handbook – Plagiarism (Academic Regulations)): When you use (for example, quote or even summarize or paraphrase) someone else's media, words, data, ideas, or other works, you must cite your source. You should be especially careful to avoid plagiarizing Internet sources (for example, e-mail, chat rooms, Web sites, or discussion groups). It does not matter whether you borrow material from print sources, from the Internet, from on-line databases, or from interviews. Failure to cite your source is plagiarism. Students who plagiarize may receive an "F" or a "0" for the assignment, or an "F" for the course.

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) or call 931-372-3975 for assistance. If you are having trouble with one of the [instructional technologies](#) (i.e. Zoom, Teams, Qualtrics, Respondus), visit the [Student Guide and Resources on Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

Tutoring

The university provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Counseling and Health Services

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

08. ACCOUNTING: 1 Curriculum change for Flight Foundations

- I. CURRICULUM CHANGES Revise the general education (Flight Foundations) curriculum for all Accounting majors.

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	4
Financial and Digital Literacy	3
Flexible General Education*	4
Total	41

*Flexible GenEd hours must be taken within the categories of Humanities, Natural Science, or Financial and Digital Literacy, but cannot exceed the upper limit for any of those categories.

- II JUSTIFICATION These changes are consistent with the new university Flight Foundations general education core requirements Reducing the Scientific Reasoning category at 4 hours(reducing the Humanities and Cultural Expression category to 6 hours(and defining the new Financial & Digital Literacy category at the minimum of 3 hours(allows Accounting majors maximum flexibility completing their general education requirement for graduation
- III EFFECTIVE DATE Fall 2026
- IV FINANCIAL IMPACT None

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr Hr	Course	Cr Hr
FRESHMAN YEAR			
Semester Fall		Semester Spring	
Total Credit Hours 14		Total Credit Hours 15	
INGL 1010	3	ENGL 1020	3
MATH 1710	3	MATH 1530	3
Humanities or Cultural Expression	3	ECON 2010	3
DS 2810	3	Gen Elective	3
UBUS 1020	1	COMM 2025 or ^C 2500	3
Gen Elective	1		
Course	Cr Hr	Course	Cr Hr
SOPHOMORE YEAR			
Semester Fall		Semester Spring	
Total Credit Hours 16		Total Credit Hours 15	
ACCT 2110	3	H1ST 2020	3
ECON 2020	3	LAW 2810	3
Science	4	BGMT 3510	3
H1ST 2010	3	Mgt 3400	3
ECON 3610	3	ACCT 2120	3
Course	Cr Hr	Course	Cr Hr
FRESHMAN YEAR			
Semester Fall		Semester Spring	
Total Credit Hours 15		Total Credit Hours 15	
ACCT 3150 -	3	ACCT 3180	3
ACCT 3170 -	3	ACCT 3210 -	3
FIN 3210	3	DS 3520	3
BGMT 3720	3	DS 3841	3
Humanities or Cultural Expression	3	Elective	3
Course	Cr Hr	Course	Cr Hr
SENIOR YEAR			
Semester Fall		Semester Spring	
Total Credit Hours 15		Total Credit Hours 15	
DS 3620	3	ACCT 3620 -	3
ACCT 3190 -	3	ACCT Elective	3
ACCT 3330	3	BGMT 4930	3
Elective	3	Business Elective	3
Elective	3	Elective	3

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

O9. PROFESSIONAL STUDIES: 2 New Courses, 5 Curriculum Changes

I. New Courses

- **PRST 3140 – Understanding the Development and Components of Human Behavior to Effectively Navigate Group Dynamics**

Lec. 3 Cr. 3

This course examines the development of human behavior in terms of societal influences. Students will explore how human behavior influences group dynamics and learn the skills to successfully navigate them.

Justification: The proposed course will allow students a wider variety of options within their undergraduate concentrations.

Effective: Fall 2026

Cost: None

- **PRST 3800 – Career Foundations**

Lec. 3 Cr. 3

This course is designed for undergraduate students preparing to enter the workforce or explore future career paths. Students will engage in self-assessment activities to identify your strengths and career interests, develop polished application materials like resumes and cover letters, and build a professional online presence through LinkedIn. You'll also research potential employers, learn strategies for workplace success, and assemble a career portfolio that showcases your readiness for the next step.

Justification: The proposed course will allow students a wider variety of options within their undergraduate concentrations.

Effective: Fall 2026

Cost: None

II. Curriculum Changes:

Concentrations - Add PRST 3130, PRST 3140 and PRST 3800 to the following concentrations: Desktop Publishing, Health Administration, Information Technology, Organizational Leadership, and Public Safety)

Effective: Fall 2026

Cost: None

Tennessee Tech University
School of Professional Studies
PRST 3130 Section 500 –Speaking Their Language:
Building Literacy in the Tools of Digital Design
Online, 3 credit hours, Fall 2025

Instructor Information

Instructor's Name: Dr. Amy Hill

(Adobe Certified Professional in Design via Adobe Photoshop)

Office: Southwest Hall, Room 170 (Office hours: 8 a.m. to 5:15 p.m., Tuesdays, 8:00 a.m. to 4:30 p.m., Monday-Friday, or by appointment)

Telephone Number: (931) 372-6103

Campus Email: amyhill@tntech.edu

Course Information

Prerequisites : None

Texts and References

There are no required textbooks. Readings will be provided on iLearn.

Course Welcome and Description

This course introduces students to the digital tools, platforms, and visual forms that shape everyday communication. The course focuses on how digital design functions across a variety of contexts and how individuals interact with and make sense of visual information in digital environments. Through hands-on exploration and discussion, students develop a practical understanding of digital tools while considering broader questions about technology's role in contemporary life. No prior design experience is required.

General Education Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Locate, critically evaluate, and demonstrate proficiency with various digital resources (including online information, apps, online learning, and other web-based tools).
2. Demonstrate responsible use of software, databases, and online tools, including generative AI.
3. Identify and evaluate ethical considerations related to data privacy, intellectual property, and the role of algorithms in mediating access to digital information.

Tennessee Tech University
School of Professional Studies
PRST 3140 Section 500 – Understanding the
Development and Components of Human Behavior to
Effectively Navigate Group Dynamics
Online, 3 credit hours, Fall 2026

Instructor Information

Instructor's Name: Dr. Amy Hill

(Adobe Certified Professional in Design via Adobe Photoshop)

Office: Southwest Hall, Room 170 (Office hours: 8 a.m. to 5:15 p.m, Tuesdays, 8:00 a.m. to 4:30 p.m., Monday-Friday, or by appointment)

Telephone Number: (931) 372-6103

Campus Email: amyhill@tntech.edu

Course Information

Prerequisites : None

Texts and References

There are no required textbooks. Readings will be provided on iLearn.

Course Welcome and Description

This course examines the development of human behavior in terms of societal influences. Students will explore how human behavior influences group dynamics and learn the skills to successfully navigate them.

General Education Student Learning Outcomes

Upon completion of this course, students will be able to:

1. Explore the relationship between the individual and society as it affects the personal behavior, social development, and quality of life of the individual, the family and the community.
2. Examine the impact of behavioral and social scientific research on major contemporary issues and their disciplines' effects on individuals and society.
3. Using the most appropriate principles, methods, and technologies, perceptively and objectively gather, analyze, and present social and behavioral science research data, draw logical conclusions, and apply those conclusions to one's life and society.

4. Analyze and communicate the values and processes that are used to formulate theories regarding the social context of individual human behavior in the social and behavioral sciences.

SLO 3 — Students will learn how societal influences affect the development of certain human behavior traits and how that understanding can lead to healthier dynamics in family, social, and professional group settings.

SLOs 4, 5 and 7 — Students will explore contemporary research to understand how human behaviors, both negative and positive, are developed through societal influence and are manifested in group dynamics (SLO4). They will then analyze the methodologies, tools, and findings of that research to relate to their own interactions among their family and community (SLO5). This will allow students to communicate their values and processes for managing human behaviors in group settings in an emotionally healthy way (SLO7).

Major Teaching Methods

All course material/information (lectures, assignments, tests/quizzes, discussions, etc.) are online within the iLearn course, including required textbook readings.

Special Instructional Platform/Materials [e.g. laptop, etc.]

A Webcam, Microphone, Smartphone, or other means of communication may be needed for video assignment submissions (when applicable).

Topics to be Covered

1. **Week 1:** Foundations of Societal Influence on Human Behavior
2. **Week 2:** Social Learning, Modeling, and Predicting Behavior in Groups
3. **Week 3:** Contemporary Research on Behavioral Development
4. **Week 4:** Applying Research to Real-Life Interactions
5. **Week 5:** Healthy and Unhealthy Social Patterns in Groups
6. **Week 6:** Values, Self-Awareness, and Behavior Management Strategies
7. **Week 7:** Applying Behavioral Insight to Improve Group Dynamics

Course Schedule

All assignments for each week are due by 11:59 p.m., the Sunday of that week.

Week 1 — Foundations of Societal Influence on Human Behavior

Weekly Focus

Introductory theories explaining how society shapes individual behavior, attitudes, and dispositions.

Topics

- Socialization: how groups teach norms and acceptable behavior
- Primary influences: family, peers, culture, media
- Introduction to predictable behavior patterns in humans
- Foundational behavior concepts (reinforcement, modeling, social identity)

Practical Behavior Skills

- Identifying your own social conditioning
- Recognizing why people behave as they do in familiar group settings

Project

Reflection Essay: “My Social Ecosystem”

Students map their own social influences and analyze one behavior trait that developed from those influences.

Week 2 — Social Learning, Modeling, and Predicting Behavior in Groups

Weekly Focus

How people learn behaviors from others, and how these patterns manifest in group settings.

Topics

- Observational learning and unconscious mimicry
- Peer influence and conformity
- Behavioral contagion (positivity, negativity, norms)
- Predicting group behavior using simple principles (incentives, attention, hierarchy)

Practical Behavior Skills

- How to anticipate human reactions in groups
- How to recognize who holds informal influence
- Tips for spotting positive vs. negative models

Project

Mini Case Study Analysis

Students analyze behavior modeling within a chosen group (team, workplace, online community, etc.).

Week 3 — Contemporary Research on Behavioral Development

Weekly Focus

Understanding how scholars investigate human behavior in social contexts.

Topics

- Research design: observational, experimental, qualitative
- Tools used in behavior research (surveys, interviews, coding schemes)
- Identifying valid conclusions vs. weak research
- Common findings in modern behavioral research

Practical Behavior Skills

- How to evaluate claims about human behavior
- How to tell whether “pop psychology” is trustworthy

Project

Research Article Review

Students summarize and critique a peer-reviewed article on societal influence or group behavior.

Week 4 — Applying Research to Real-Life Interactions

Weekly Focus

Connecting academic findings to everyday behavior in family and community settings.

Topics

- Family systems and learned behavior patterns
- Cultural scripts for communication, emotional expression, and conflict
- Intergenerational habits: how behavior is passed down
- Group norms and boundary-setting through behavior

Practical Behavior Skills

- How to identify “scripts” you inherited without realizing it
- How to understand someone’s behavior by looking at their context

Project

Behavior Application Report

Students apply findings from their Week 3 article to a real interaction pattern in their family or community.

Week 5 — Healthy and Unhealthy Social Patterns in Groups

Weekly Focus

Understanding how behaviors shaped by society show up in real groups — and how to manage them.

Topics

- Healthy vs. unhealthy patterns (support, cohesion, triangulation, dominance)
- Emotional intelligence in group settings
- Conflict cycles and escalation
- Social identities and perception biases

Practical Behavior Skills

- Recognizing early signs of unhealthy group dynamics
- Strategies for de-escalation
- Tips for maintaining emotional boundaries

Project

Group Dynamics Observation Log

Students observe a live group and document examples of healthy and unhealthy behavior patterns.

Week 6 — Values, Self-Awareness, and Behavior Management Strategies

Weekly Focus

Clarifying personal values and developing strategies to navigate social behavior effectively.

Topics

- Values and behavioral alignment
- Managing emotional and behavioral reactions
- Leadership through stability and consistency
- Setting personal boundaries and understanding others' boundaries

Practical Behavior Skills

- How to maintain internal stability when group dynamics shift

- How to understand your behavioral “triggers”
- How to choose a response instead of reacting automatically

Project

Personal Values & Behavior Management Plan

Students create a plan detailing their personal values and strategies for managing human behavior in group settings.

Week 7 — Applying Behavioral Insight to Improve Group Dynamics (Without a Communication Emphasis)

Weekly Focus

Integrate everything learned to better understand, predict, and navigate human behavior in complex group environments.

Focus is behavioral navigation, not communication.

Topics

- Using behavioral principles to interpret group actions
- Recognizing predictable behavioral patterns in conflict, stress, and cooperation
- How societal norms shape role assignments (leader, helper, critic, mediator)
- Strategies for influencing group behavior ethically (modeling, consistency, boundary-setting, incentives)

Practical Behavior Skills

- How to “read a room” using behavioral cues
- How to anticipate reactions based on group history
- How to choose the most effective personal role in a group
- Tips for maneuvering challenging personalities (withdrawers, dominators, pessimists, attention-seekers)

Project (Final)

Behavior Navigation Portfolio

Students compile:

1. Key insights from previous assignments
2. A real or hypothetical group scenario

3. A detailed plan describing how they would interpret the group's behavior, predict likely outcomes, and choose behavioral strategies to maintain healthy group dynamics.

Grading and Evaluation Procedures

There are no extra credit options in this course. There are no "do-over" or resubmission of assignment options. The course grade will be calculated by taking the earned points for each assessment and adding the sums together to earn a total possible 100 points.

Evaluation Methods:	Possible Points:
Discussion Posts	20
Weekly Assignments	40
Final Project	40
TOTAL POINTS POSSIBLE	100

Grading Scale

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding academic integrity violations. All students must read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Attendance Policy

Attendance and participation will be determined by how well you complete your assignments and meet project deadlines.

Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the

family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Information in the syllabus is a guide for the course. The faculty member reserves the right to make changes as necessary to the schedule and content. If changes are necessitated during the course of the semester, the faculty will notify students by e-mail and post the notification and nature of changes(s) in iLearn. It is the student's responsibility to check email daily, login to iLearn regularly, and check for announcements on the course homepage.

- Students are required to log on to the course iLearn site and check TTU E-mail on a regular basis; *remember, TTU E-mail is NOT the messenger system in iLearn.* We recommend checking your TTU E-mail a minimum of three times per week. Please respond to faculty E-mail or telephone calls within 48-72 hours.
- Participation *is required* for class assignments and discussion posts.
- Students are expected to maintain a respectful and professional demeanor always. Students are expected to abide TTU's Honor Code. Plagiarism is strictly prohibited. A breach of these standards may result in failure of an assignment or the entire course.

Assignments and Related Policy

All assignments are to be turned in on the date due. After the date due, you will be allowed a one-week grace period without a grade penalty; if the assignment is not received after the week's grace period, the student will receive a zero for the assignment. The instructor will not remind you of missed assignments. If you do submit them within a week after the due date, please email the instructor, so she will know that it has been completed.

Instructional and Assignment Use of Artificial Intelligence

AI policy statement: Permitted when Assigned in this Course with Attribution.

In this course, Generative AI resources are allowed to be used for specific assignments or within set parameters, as designated by the instructor.

To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

To indicate the use of a Generative AI resource, a student should include the following statement in their assignments: "The author(s) acknowledge the utilization of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was employed in the

following manner(s) within this assignment [e.g., brainstorming, grammatical correction, citation, specific section of the assignment]."

PLEASE NOTE: STUDENTS WHO USE AI SOURCES WITHOUT PROPERLY CITING THEM WILL AUTOMATICALLY RECEIVE A 10-POINT DEDUCTION FOR THAT ASSIGNMENT. WRITTEN ASSIGNMENTS WILL BE RUN THROUGH THE INSTRUCTOR'S AI DETECTION SOFTWARE TO ENSURE AI SOURCES ARE CITED.

Proper citation guidelines can be found on the [CITL website](#).

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

Tutoring

The university provides free tutoring to all Tennessee Tech students through the Learning Center within the Volpe Library. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Counseling and Health Services

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Emergency Preparedness Protocols

Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#).

Tennessee Tech University

Professional Studies

PRST 3800- Career Foundations

[SESSION DATES TBD] Online Asynchronous, 3 Credit Hours, [Semester TBD]

Instructor Information

Instructor's Name: **Michele Lee Niec**

Office: **Southwest Hall 185**

Telephone Number: **(931) 372-6267**

Campus Email: **mniec@tntech.edu** (please do not use mlniec42@tntech.edu)

Course Information

Prerequisites - COMM 2025 or similar. Must be a junior or senior in good standing, or a transfer student.

Texts and Resources -

Career Directions: New Paths to Your Ideal Career (ISBN-10: 9781259712371)

Vena, D. J. (2020). *Career directions: new paths to your ideal career*. McGraw-Hill Education.

Course Welcome and Description

Welcome to Career Foundations. This course is designed for undergraduate students preparing to enter the workforce or explore future career paths. You'll engage in self-assessment activities to identify your strengths and career interests, develop polished application materials like resumes and cover letters, and build a professional online presence through LinkedIn. You'll also research potential employers, learn strategies for workplace success, and assemble a career portfolio that showcases your readiness for the next step.

Course Objectives/Student Learning Outcomes

By the end of this course, students will be able to:

- Assess personal strengths, interests, and values.
- Create a professional resume and LinkedIn profile.

- Research potential employers and compile a detailed Company Dossier that demonstrates understanding of company culture, job roles, and application processes.
- Assemble a career portfolio that includes updated materials and a personal reflection on career development and future goals.

Major Teaching Methods

Major teaching methods for this online course will be lecture videos, discussion boards, group collaboration, readings, and student presentations.

All course materials/information are available online within ilearn/D2L course modules. This includes assignments, deadlines, support material, requirements and expectations, and assessments.

Special Instructional Platform/Materials

ILEARN: <https://elearn.tntech.edu>

For accessibility purposes, all text submissions, either in the ilearn submission box or any discussion board, should be written at minimum in **the ilearn default font size of 22.Spx and with a sans-serif font (e.g., Tahoma).**

- What's included: Course materials, grades, upload work, quizzes, and discussions.
- <https://www.tntech.edu/ilearn/student-resources.php>
 1. Turn on notifications in ilearn to ensure you do not miss any due dates.
 2. Download the Brightspace Pulse App on your phone for quick access to course materials, schedules and notifications.

Topics to be Covered/ Course Schedule

Week 1 - Self-Assessment & Career Exploration

- Welcome, syllabus review
- Topics: Personal strengths, interests, values, career alignment
- Assignments: Personal SWOT Analysis, Read chapters 1-3, Syllabus and chapter quizzes
- Discussion Board: What makes a career meaningful to you?

Week 2 - Resume Development

- Topics: Resume formats, tailoring for job descriptions, electronic resumes
- Assignments: Draft professional resume, Read chapters 10 & 11, LinkedIn
Learning: Optimize Your Resume for ATS

Weeks 3&4- Digital Presence & LinkedIn

- Topics: LinkedIn profiles, networking, personal branding
- Assignment: Create or update LinkedIn profile, Read chapters 7 & 8, LinkedIn
Learning: Rock Your LinkedIn Profile

Weeks 5&6 - Employer Research & Career Fit

- Topics: Company culture, job roles, industry trends, values alignment
- Assignment: Read chapters 5 & 9, Quiz, Company Dossier- a detailed report on a selected employer including:
 - Company overview
 - Mission, values, and culture
 - Job roles of interest, internships, Co-op programs
 - Application process
 - Company social media presence

Week 7 - Career Success Strategies

- Topics: Communication, time management, workplace etiquette
- Assignment: Read chapter 6 & 13, Discussion board, Quiz

Week 8 - Portfolio & Reflection (Midterm)

- Topics: Portfolio assembly, career reflection, next steps
- Assignment: Submit complete professional portfolio including:
 - Final resume
 - LinkedIn profile link-with at least one engagement per week 4-7
 - Company Dossier-with updates
 - Reflection on career goals and course learnings

Weeks 9&10- Financial Literacy & Evaluating Job Offers

- Topics: Understanding salary structures, benefits packages, cost of living, negotiation basics
- Assignments: Read chapter 6 & 13, Discussion board, Quiz
 - Activity: Compare two job offers using a salary/benefits evaluation worksheet
 - Quiz: Key financial literacy terms (e.g., gross vs. net pay, 401(k), health insurance types)
 - Discussion Board: What financial factors matter most to you in a job offer?

Week 11 - Personal Development

- Topics: Communication Skills, Time and Stress Management, Personal Care/Appearance, Personal Finances
- Assignments: Read Chapter 4
 - Complete Personal Budget Worksheet
 - Complete Personal Development Reflection Exercise

Weeks 12&13-Successful Interview

- Topics: Types of job Interviews, Interview Questions, Preparing for a job Interview
- Assignments:
 - Read Chapter 12
 - Complete online mock interview with instructor

Weeks 14 - Contemporary Issues in the Workplace

- Topics: Workplace Ethics
- Assignments:
 - Read Chapter 14
 - Chapter 14 Quiz

Weeks 15 - Final Project

- Topics: Career Strategy Report
- Assignment: Create a 6-8-page Career Strategy Report

- o **Required Sections**
 - **Introduction: Your Career Direction**
 - Summarize your chosen career path and what motivates your interest.
 - **Self-Assessment: Who You Are as a Professional**
 - Draw on your Personal SWOT Analysis, values exploration, strengths, interests, and Week 1 discussion.
 - **Career Alignment Analysis**
 - Explain how your strengths, values, and interests align with the industry or role you plan to pursue.
 - **Digital Presence Review**
 - Reflect on improvements to your LinkedIn profile, what you learned about personal branding, and how you will maintain your digital presence.
 - **Employer & Industry Fit Summary**
 - Use your Company Dossier and course readings to discuss:
 - Job roles you are targeting
 - Company culture and values
 - Industry trends that influence your decisions
 - **Communication & Professional Skills**
 - Describe how course modules on communication, etiquette, time management, and workplace expectations shaped your understanding of career readiness.
 - **Ethics & Contemporary Workplace Issues**
 - Provide a short analysis of how ethical awareness informs your conduct as a future professional (Weeks 14-15).
 - **Your Next 12-Month Career Action Plan**
 - A practical roadmap that includes:
 - o Skill-building goals
 - o Networking strategies
 - o Short-term job search steps
 - o Professional development commitments

Grading and Evaluation Procedures

- Career Exploration & Self-Assessment-15%
- Professional Documents and Digital Presence -20%
- Employer Research & Career Decision Making- 20%
- Career Skills, Interviewing, and Professional Development- 20%
- Midterm Portfolio -15%
- Final-Career Strategy Report-10%

Grading Scale

Table 1: Overview of grade range

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Course Policies

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Attendance Policy and Active Engagement

This course is fully asynchronous and delivered through ilearn. You're expected to stay actively engaged by completing readings, assignments, quizzes, and discussion boards on time, and regularly logging in to access course materials. Your engagement will be monitored through ilearn analytics, and you should maintain at least 70% activity - including time spent in modules, clicks, and downloads. Missing multiple assignments, low engagement, or unprofessional behavior may negatively affect your grade. You'll receive one warning for non-compliance; continued issues may result in grade penalties.

Completion of the Syllabus Quiz in Week 1 is required and counts toward your participation grade.

Students who are unable to engage with coursework for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Assignments and Related Policy

All assignments will be due by 11:59 p.m. on their assigned due date unless otherwise indicated in the master schedule and/or assignment instructions. Assignments will only be accepted via ilearn submissions. No email or MS Teams submissions will be accepted.

All written assignments must be submitted in either a text-selectable **PDF** or DOCX format. Some assignments will ask for a specific file type and/or file name - pay attention to the assignment instructions!

Some assignments may be submitted up to five days late with a grade deduction of 10 points off per day late (or 10% per late day if the assignment is <100 points). After that, the assignment will be assigned a grade of zero. You may assume the assignment may be submitted late unless the assignment instructions specifically say it can't be submitted late.

Instructional and Assignment Use of Artificial Intelligence

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Proper citation guidelines can be found on the [CITL website](#).

A failure to acknowledge AI use will result in a notification from Mrs. Niec and potential further steps in accordance with Tennessee Technological University Policy No. 216: Student Academic Integrity.

Disability Accommodation

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Emergency Preparedness Protocols

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Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

09. Environmental Studies: 7 Curriculum Changes for Flight Foundations

- I. CURRICULUM CHANGE: Revision of the General Education Flight Foundations curriculum for the Bachelor of Science in Environmental and Sustainability Studies for all seven concentrations (Environmental Science; Environmental Science Biology; Environmental Science Chemistry; Environmental Sustainability; Environmental Technology; Natural Resources; and Environmental Leadership, Communication, and Policy)

Category	Hours
Communication	9
Social and Behavioral Sciences	6
Historical Foundations	6
Quantitative Reasoning and Analysis	3 or 4
Scientific Reasoning	8
Humanities and Cultural Expression	6
Financial and Digital Literacy	3
Total	41 or 42

- II. JUSTIFICATION:
These changes align the Bachelor of Science in Environmental Studies to the new Flight Foundations requirements. Humanities and Cultural Expression was reduced by 3 hours and added to Financial and Digital Literacy. This maintains the rigor and flexibility of the Environmental Studies degree for our students, especially transfer students.
- III. EFFECTIVE DATE: Fall 2026
- IV. FINANCIAL IMPACT: None

ESS-ELCP - Environmental & Sustainability Studies, Environmental Leadership, Communication and Policy Concentration, B.S.

Program Overview

Program Long Title

Environmental & Sustainability Studies, Environmental Leadership, Communication and Policy Concentration, B.S.

College/School

Department(s)

Emerging and Integrative Studies

Environmental Studies

Degree Map

Degree Map Name

Degree Plan - Environmental and Sustainability Studies, Environmental Leadership, Communication and Policy Concentration, B.S.

Total Degree Map Credits

120

Degree Map Effective Catalog Year

2425 -

Year	Semester	Actual Credits
Freshman Year	First Semester	15
Requirement Select <ul style="list-style-type: none"> CHEM1010 - Introductory Chemistry I OR CHEM1110 - General Chemistry I 		
	Actual Credits	4
Requirement Select <ul style="list-style-type: none"> Elective (Generic) 		
	Actual Credits	2 - 1
Requirement Select <ul style="list-style-type: none"> ENGL1010 - English Composition I 		
	Actual Credits	3
Requirement Select <ul style="list-style-type: none"> ESS1100 - Intro to Environmental Studies 		
	Actual Credits	3
Requirement Select <ul style="list-style-type: none"> MATH1710 - Pre-Calculus Algebra OR MATH1830 - Applied Calculus OR MATH1910 - Calculus I 		
	Actual Credits	3 - 4
Year	Semester	Actual Credits
Freshman Year	Second Semester	14
Requirement Select <ul style="list-style-type: none"> BIOL1020 - Diversity of Life 		
	Actual Credits	4
Requirement Select <ul style="list-style-type: none"> Elective (Generic) 		
	Actual Credits	1

Requirement Select

- ENGL1020 - English Composition II

Actual Credits 3

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Requirement Select

- POLS1030 - American Government

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	First Semester	15

Requirement Select

- COMM2025 - Fundamentals of Communication
- OR
- PC2500 - Communicating in the Profess.

Actual Credits 3

Requirement Select

- Financial and Digital Literacy

Actual Credits 3

Requirement Select

- ESS2100 - Environment and Ethics

Actual Credits 3

Requirement Select

- HIST2010 - Early United States History

Actual Credits 3

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	Second Semester	16

Requirement Select

- COMM2075 - Organizational Communication
- OR
- PC3250 - Professional Comm I

Actual Credits 3

Requirement Select

- ECON2010 - Principles of Microeconomics

Actual Credits 3

Requirement Select

- GEOL1040 - Physical Geology
- OR
- GEOL1045 - Earth Environ Resrces Soc

Actual Credits 4

Requirement Select

- HIST2020 - Modern United States History

Actual Credits 3

Requirement Select

- JOUR1110 - Media and Social Institutions
- OR
- JOUR2200 - Mass Comm/Changing Society
- OR
- JOUR3460 - Intro to Public Relations

Actual Credits 3

Year	Semester	Actual Credits
Junior Year	First Semester	15

Requirement Select

- BMGT3510 - Mgmt/Organizational Behavior

Actual Credits 3

Requirement Select

- COMM3040 - Event Planning/Risk Management
- OR
- COMM3000 - Computer Mediated Comm
- OR
- COMM3630 - Discuss & Parliament Procedure

Actual Credits 3

Requirement Select

- ESS3000 - Intro to Environmental Law

Actual Credits 3

Requirement Select

- ESS3200 - Nonprofit Org & the Envirmnt
- OR
- HIST3900 - Environmental History

Actual Credits 3

Requirement Select

- MATH3070 - Statistical Methods I
- OR
- BIOL4220 - Biostatistics

Actual Credits 3

Year	Semester	Actual Credits
Junior Year	Second Semester	15

Requirement Select

- BIOL3120 - General Ecology
- OR
- BIOL3130 - General Ecology

Actual Credits 3 - 4

Requirement Select

- Elective (Generic)

Actual Credits 3 - 2

Requirement Select

- ESS3100 - Global Sust Issues/Initiatives

Actual Credits 3

Requirement Select

- ESS3710 - Chemistry and the Environment

Actual Credits 3

Requirement Select

- ESS4110 - Human Dimensions/Nat Res Mgmt
- OR
- SOC3600 - Environmental Sociology

Actual Credits 3

Year	Semester	Actual Credits
Senior Year	First Semester	15

Requirement Select

- AGBE4120 - Natural Resource Economics

Actual Credits 3

Requirement Select

- BMGT4520 - Organizational Leadership
- OR
- LIST3500 - Non-Profit Leadership

Actual Credits 3

Requirement Select

- COMM3080 - Comm & Effective Team Work
- OR
- LIST3410 - Team Bldg/Workplace Dynamics
- OR
- LIST4300 - Workplace Performance

Actual Credits 3

Requirement Select

- ESS4001 - Society/Envrmt-Capstone Exp 1

Actual Credits 3

Requirement Select

- ESS4300 - Environmental Mgmt System

Actual Credits 3

Year	Semester	Actual Credits
Senior Year	Second Semester	15

Requirement Select

- ECON4200 - Environmental Economics

Actual Credits

3

Requirement Select

- Elective (Generic)

Actual Credits

3

Requirement Select

- ESS4093 - Special Topics
OR
- ESS4100 - National Parks/Protected Areas
OR
- ESS4900 - Internship
OR
- GEOG4510 - Theory of GIS I

Actual Credits

3

Requirement Select

- ESS4002 - Society/Envmnt-Capstone Exp 2

Actual Credits

3

Requirement Select

- POLS3670 - Foreign Policy
OR
- POLS4610 - Public Admin/Public Policy
OR
- WFS4500 - National Wildlife Policy

Actual Credits

3

ESS-ESBI - Environmental & Sustainability Studies, Environmental Science Biology Concentration, B.S.

Program Overview

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Environmental & Sustainability Studies, Environmental Science Biology Concentration, B.S.

College/School

Department(s)

Emerging and Integrative Studies

Environmental Studies

Degree Map

Degree Map Name


Degree Plan - Environmental and Sustainability Studies, Environmental Science Biology Concentration, B.S.

Total Degree Map Credits

120

Degree Map Effective Catalog Year

2425 -

Year	Semester	Actual Credits
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Requirement Select <ul style="list-style-type: none"> BIOL1113 - General Biology I 		
	Actual Credits	4
Requirement Select <ul style="list-style-type: none"> Elective (Generic) 		
	Actual Credits	2 - 1
Requirement Select <ul style="list-style-type: none"> ENGL1010 - English Composition I 		
	Actual Credits	3
Requirement Select <ul style="list-style-type: none"> ESS1100 - Intro to Environmental Studies 		
	Actual Credits	3
<p style="text-align: right; color: red;">ESS 1100 not approved yet as Flight Foundations course.</p> 		
Requirement Select <ul style="list-style-type: none"> MATH1710 - Pre-Calculus Algebra OR MATH1830 - Applied Calculus OR MATH1910 - Calculus I 		
	Actual Credits	3 - 4
Year	Semester	Actual Credits
Freshman Year	Second Semester	14
Requirement Select <ul style="list-style-type: none"> BIOL1123 - General Biology II 		
	Actual Credits	4
Requirement Select <ul style="list-style-type: none"> ENGL1020 - English Composition II 		
	Actual Credits	3

Requirement Select

- GEOL1040 - Physical Geology
- OR
- GEOL1045 - Earth Environ Resrces Soc

Actual Credits 4

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	First Semester	14

Requirement Select

- BIOL2310 - General Botany

Actual Credits 4

Requirement Select

- CHEM1010 - Introductory Chemistry I
- OR
- CHEM1110 - General Chemistry I

Actual Credits 4

Requirement Select

- Financial and Digital Literacy

Actual Credits 3

Requirement Select

- HIST2010 - Early United States History

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	Second Semester	15

Requirement Select

- COMM2025 - Fundamentals of Communication
- OR
- PC2500 - Communicating in the Profess.

Actual Credits 3

Requirement Select

- ECON2010 - Principles of Microeconomics

Actual Credits 3

Requirement Select

- ESS2100 - Environment and Ethics

Actual Credits 3

Requirement Select

- HIST2020 - Modern United States History

Actual Credits 3

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Year
Junior Year

Semester
First Semester

Actual Credits
16

Requirement Select

- BIOL3120 - General Ecology
- OR
- BIOL3130 - General Ecology

Actual Credits 3 - 4

Requirement Select

- Elective (Generic)

Actual Credits 1 - 0

Requirement Select

- ESS3000 - Intro to Environmental Law

Actual Credits 3

Requirement Select

- ESS3200 - Nonprofit Org & the Environmnt
- OR
- HIST3900 - Environmental History

Actual Credits 3

Requirement Select

- MATH3070 - Statistical Methods I
- OR
- BIOL4220 - Biostatistics

Actual Credits 3

Requirement Select

- ESS/Environmental Science-Biology - Science Elective

Actual Credits 3

Year
Junior Year

Semester
Second Semester

Actual Credits
15

Requirement Select

- Elective (Generic)

Actual Credits 2 - 3

Requirement Select

- ESS3100 - Global Sust Issues/Initiatives

Actual Credits 3

Requirement Select

- ESS3710 - Chemistry and the Environment

Actual Credits 3

Requirement Select

- ESS4110 - Human Dimensions/Nat Res Mgmt
OR

- SOC3600 - Environmental Sociology

Actual Credits 3

Requirement Select

- ESS/Environmental Science-Biology - Science Elective

Actual Credits 4 - 3

Year	Semester	Actual Credits
Senior Year	First Semester	16

Requirement Select

- AGBE4120 - Natural Resource Economics
OR

- ECON4120 - Natural Resource Economics

Actual Credits 3

Requirement Select

- BIOL3140 - Cellular Biology
OR

- BIOL3200 - General Microbiology
OR

- BIOL3810 - General Genetics

Actual Credits 4

Requirement Select

- ESS/Environmental Science-Biology - Directed Elective

Actual Credits 6

Requirement Select

- ESS4001 - Society/Envrmt-Capstone Exp 1

Actual Credits 3

Year	Semester	Actual Credits
Senior Year	Second Semester	15

Requirement Select

- ESS/Environmental Science-Biology - Directed Elective

Actual Credits 6

Requirement Select

- Elective (Generic)

Actual Credits 6

Requirement Select

- ESS4002 - Society/Envrmt-Capstone Exp 2

Actual Credits 3

Requirement Select

- Note: 1 Science Elective Two of the following: AGRN 3000 - Soils GEOG 3200/GEOL 3200 - Water Resources GEOG 4510 (5510) - Theory of GIS I PHYS 2010 - Algebra-based Physics I (Generic)

Actual Credits -

Requirement Select

- 2 Directed Elective Four of the following: AGHT 3450 - Dendrology BIOL 3240 - Field Botany BIOL 3330 - Entomology BIOL 4130 (5130) - Environmental Microbiology BIOL 4170 (5170) - Population and Conservation Genetics BIOL 4230 (5230) - Animal Behavior BIOL 4330 (5330) - Plant Ecology BIOL 4610 (5610) - Invertebrate Zoology BIOL 4630 (5630) - Ornithology BIOL 4650 (5650) - Marine Biology BIOL 4810 (5810) - Ichthyology BIOL 4820 (5820) - Mammalogy BIOL 4830 (5830) - Herpetology BIOL 4840 (5840) - Limnology WFS 4730 (5730) - Conservation Biology (Generic)

Actual Credits

-

ESS-ESCH - Environmental & Sustainability Studies, Environmental Science Chemistry Concentration, B.S.

Program Overview

Program Long Title

Environmental & Sustainability Studies, Environmental Science Chemistry Concentration, B.S.

College/School

Department(s)

Emerging and Integrative Studies

Environmental Studies

Degree Map

Degree Map Name

Degree Plan - Environmental and Sustainability Studies, Environmental Science Chemistry Concentration, B.S.

Total Degree Map Credits

120

Degree Map Effective Catalog Year

2425 -

Year	Semester	Actual Credits
Freshman Year	First Semester	15
Requirement Select <ul style="list-style-type: none"> CHEM1110 - General Chemistry I Actual Credits 4		
Requirement Select <ul style="list-style-type: none"> Elective (Generic) Actual Credits 2 - 1		
Requirement Select <ul style="list-style-type: none"> ENGL1010 - English Composition I Actual Credits 3		
Requirement Select <ul style="list-style-type: none"> ESS1100 - Intro to Environmental Studies Actual Credits		
<p style="color: red; text-align: right;">← ESS 1100 not yet approved as Flight Foundations course</p>		
Requirement Select <ul style="list-style-type: none"> MATH1830 - Applied Calculus OR MATH1910 - Calculus I Actual Credits 3 - 4		
Year	Semester	Actual Credits
Freshman Year	Second Semester	14
Requirement Select <ul style="list-style-type: none"> BIOL1020 - Diversity of Life Actual Credits 4		
Requirement Select <ul style="list-style-type: none"> CHEM1120 - General Chemistry II Actual Credits 4		
Requirement Select <ul style="list-style-type: none"> ENGL1020 - English Composition II Actual Credits 3		

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	First Semester	14

Requirement Select

- CHEM3010 - Organic Chemistry I

Actual Credits 4

Requirement Select

- Financial and Digital Literacy

Actual Credits 3

Requirement Select

- GEOL1040 - Physical Geology
- OR
- GEOL1045 - Earth Environ Resrces Soc

Actual Credits 4

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	Second Semester	17

Requirement Select

- AGRN3000 - Soils

Actual Credits 4

Requirement Select

- COMM2025 - Fundamentals of Communication
- OR
- PC2500 - Communicating in the Profess.

Actual Credits 3

Requirement Select

- CHEM3020 - Organic Chemistry II

Actual Credits 4

Requirement Select

- ECON2010 - Principles of Microeconomics

Actual Credits 3

Requirement Select

- ESS2100 - Environment and Ethics

Actual Credits 3

Year	Semester	Actual Credits
Junior Year	First Semester	16

Requirement Select

- BIOL3120 - General Ecology
- OR

- BIOL3130 - General Ecology

Actual Credits 3 - 4

Requirement Select

- CHEM3410 - Quantitative Analysis

Actual Credits 4

Requirement Select

- Elective (Generic)

Actual Credits 3 - 2

Requirement Select

- ESS3000 - Intro to Environmental Law

Actual Credits 3

Requirement Select

- HIST2010 - Early United States History

Actual Credits 3

Year	Semester	Actual Credits
Junior Year	Second Semester	15

Requirement Select

- ESS3100 - Global Sust Issues/Initiatives

Actual Credits 3

Requirement Select

- ESS3200 - Nonprofit Org & the Environmnt
- OR

- HIST3900 - Environmental History

Actual Credits 3

Requirement Select

- ESS4110 - Human Dimensions/Nat Res Mgmt
- OR

- SOC3600 - Environmental Sociology

Actual Credits 3

Requirement Select

- GEOL3200 - Water Resources

Actual Credits 3

Requirement Select

- HIST2020 - Modern United States History

Actual Credits 3

Year	Semester	Actual Credits
Senior Year	First Semester	16

Requirement Select

- AGBE4120 - Natural Resource Economics
OR
- ECON4120 - Natural Resource Economics

Actual Credits 3

Requirement Select

- CHEM4710 - Environmental Chemistry

Actual Credits 3

Requirement Select

- ESS4001 - Society/Envrmt-Capstone Exp 1

Actual Credits 3

Requirement Select

- MATH3070 - Statistical Methods I
OR
- BIOL4220 - Biostatistics

Actual Credits 3

Requirement Select

- PHYS2010 - Algebra-based Physics I

Actual Credits 4

Year	Semester	Actual Credits
Senior Year	Second Semester	13

Requirement Select

- ESS/Environmental Science-Chemistry - Directed Elective

Actual Credits 5 - 7

Requirement Select

- ESS4002 - Society/Envrmt-Capstone Exp 2

Actual Credits 3

Requirement Select

- Elective (Generic)

Actual Credits 5 - 3

Requirement Select

- 1 Directed Elective: Two of the following: AGRN 3230 - Environmental Soil Science AGRN 4220 (5220) - Environmental Soil Chemistry BIOL 4840 (5840) - Limnology BIOL 4850 (5850) - Applied Microbiology CHEM 4720 (5720) - Advanced Environmental Chemistry CHEM 4992 - Undergraduate Research or CHEM 4993 - Undergraduate Research ESS 4093 - Special Topics ESS 4300 - Environmental Management System ESS 4900 - Internship GEOG 4510 (5510) - Theory of GIS I GEOG 4511 (5511) - Theory of GIS II GEOG 4650 (5650) - Environmental Applications of GIS GEOL 4300 (5300) - Environmental Aqueous Geochemistry WFS 4500 (5500) - National Wildlife Policy WFS 4730 (5730) - Conservation Biology (Generic)

Actual Credits -

ESS-ESNR - Environmental & Sustainability Studies, Natural Resources Concentration, B.S.

Program Overview

Program Long Title

Environmental & Sustainability Studies, Natural Resources Concentration, B.S.

College/School

Emerging and Integrative Studies

Department(s)

Environmental Studies

Degree Map

Degree Map Name

Degree Plan - Environmental and Sustainability Studies, Natural Resources Concentration, B.S.

Total Degree Map Credits

120

Degree Map Effective Catalog Year

2425 -

Year	Semester	Actual Credits
Freshman Year	First Semester	16
Requirement Select <ul style="list-style-type: none"> BIOL1020 - Diversity of Life 		
	Actual Credits	4
Requirement Select <ul style="list-style-type: none"> Elective (Generic) 		
	Actual Credits	3 - 2
Requirement Select <ul style="list-style-type: none"> ENGL1010 - English Composition I 		
	Actual Credits	3
Requirement Select <ul style="list-style-type: none"> ESS1100 - Intro to Environmental Studies 		
	Actual Credits	3
Requirement Select <ul style="list-style-type: none"> MATH1710 - Pre-Calculus Algebra OR MATH1830 - Applied Calculus OR MATH1910 - Calculus I 		
	Actual Credits	3 - 4
Year	Semester	Actual Credits
Freshman Year	Second Semester	13
Requirement Select <ul style="list-style-type: none"> CHEM1010 - Introductory Chemistry I OR CHEM1110 - General Chemistry I 		
	Actual Credits	4
Requirement Select <ul style="list-style-type: none"> Elective (Generic) 		
	Actual Credits	3

ESS 1100 not yet approved as Flight Foundations course



Requirement Select

- ENGL1020 - English Composition II

Actual Credits 3

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	First Semester	16

Requirement Select

- Financial and Digital Literacy

Actual Credits 3

Requirement Select

- GEOL1040 - Physical Geology
- OR
- GEOL1045 - Earth Environ Resrces Soc

Actual Credits 4

Requirement Select

- HIST2010 - Early United States History

Actual Credits 3

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Requirement Select

- ESS/Natural Resources - Directed Elective

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	Second Semester	15

Requirement Select

- COMM2025 - Fundamentals of Communication
- OR
- PC2500 - Communicating in the Profess.

Actual Credits 3

Requirement Select

- ECON2010 - Principles of Microeconomics

Actual Credits 3

Requirement Select

- ESS2100 - Environment and Ethics

Actual Credits 3

Requirement Select

- ESS3710 - Chemistry and the Environment

Actual Credits 3

Requirement Select

- HIST2020 - Modern United States History

Actual Credits 3

Year	Semester	Actual Credits
Junior Year	First Semester	15

Requirement Select

- BIOL4220 - Biostatistics
- OR
- MATH3070 - Statistical Methods I

Actual Credits 3

Requirement Select

- ESS/Natural Resources - Directed Elective

Actual Credits 3

Requirement Select

- ESS3000 - Intro to Environmental Law

Actual Credits 3

Requirement Select

- ESS3100 - Global Sust Issues/Initiatives

Actual Credits 3

Requirement Select

- ESS3200 - Nonprofit Org & the Environmnt
- OR
- HIST3900 - Environmental History

Actual Credits 3

Year	Semester	Actual Credits
Junior Year	Second Semester	15

Requirement Select

- AGRN3000 - Soils

Actual Credits 4

Requirement Select

- BIOL3120 - General Ecology
- OR
- BIOL3130 - General Ecology

Actual Credits 3 - 4

Requirement Select

- Elective (Generic)

Actual Credits 2 - 1

Requirement Select

- ESS4110 - Human Dimensions/Nat Res Mgmt
- OR
- SOC3600 - Environmental Sociology

Actual Credits 3

Requirement Select

- GEOL3200 - Water Resources

Actual Credits 3

Year	Semester	Actual Credits
Senior Year	First Semester	15

Requirement Select

- AGBE4120 - Natural Resource Economics
- OR
- ECON4120 - Natural Resource Economics

Actual Credits 3

Requirement Select

- BIOL4840 - Limnology
- OR
- ESS4093 - Special Topics
- OR
- GEOL4150 - Geomorphology

Actual Credits 3

Requirement Select

- ESS4001 - Society/Envrmt-Capstone Exp 1

Actual Credits 3

Requirement Select

- ESS4900 - Internship
- OR
- AGET3110 - Natural Resource System
- OR
- ESS4300 - Environmental Mgmt System

Actual Credits 3

Requirement Select

- ESS/Natural Resources - Directed Elective

Actual Credits 3

Year	Semester	Actual Credits
Senior Year	Second Semester	15

Requirement Select

- Elective (Generic)

Actual Credits 6

Requirement Select

- ESS/Natural Resources - Directed Elective

Actual Credits 3

Requirement Select

- ESS4002 - Society/Envmnt-Capstone Exp 2

Actual Credits

3

Requirement Select

- ESS4100 - National Parks/Protected Areas

Actual Credits

3

Requirement Select

- 1 Directed Electives · AGBE 2010 - World Food and Society Credit: 3. · AGHT 3450 - Dendrology Credit: 3. · BIOL 2310 - General Botany Credit: 4. · BIOL 3240 - Field Botany Credit: 3. · BIOL 4330 (5330) - Plant Ecology Credit: 3. · GEOG 4510 (5510) - Theory of GIS I Credit: 3. · GEOG 4511 (5511) - Theory of GIS II Credit: 3. · GEOG 4650 (5650) - Environmental Applications of GIS Credit: 3. · WFS 4730 (5730) - Conservation Biology Credit: 3. (Generic)

Actual Credits

-

ESS-SCI - Environmental & Sustainability Studies, Environmental Science Concentration, B.S.

Program Overview

Program Long Title

Environmental & Sustainability Studies, Environmental Science Concentration, B.S.

College/School

Emerging and Integrative Studies

Department(s)

Environmental Studies

Degree Map

Degree Map Name

Degree Plan - Environmental and Sustainability Studies, Environmental Science Concentration, B.S.

Total Degree Map Credits

120

Degree Map Effective Catalog Year

2425 -

Year	Semester	Actual Credits
Freshman Year	First Semester	15
Requirement Select <ul style="list-style-type: none"> • BIOL1020 - Diversity of Life 		
Actual Credits		4
Requirement Select <ul style="list-style-type: none"> • Elective (Generic) 		
Actual Credits		2 - 1
Requirement Select <ul style="list-style-type: none"> • ENGL1010 - English Composition I 		
Actual Credits		3
Requirement Select <ul style="list-style-type: none"> • ESS1100 - Intro to Environmental Studies ← ESS 1100 not approved as Flight Foundations course 		
Actual Credits		3
Requirement Select <ul style="list-style-type: none"> • MATH1710 - Pre-Calculus Algebra OR • MATH1830 - Applied Calculus OR • MATH1910 - Calculus I 		
Actual Credits		3 - 4
Year	Semester	Actual Credits
Freshman Year	Second Semester	13
Requirement Select <ul style="list-style-type: none"> • CHEM1010 - Introductory Chemistry I OR • CHEM1110 - General Chemistry I 		
Actual Credits		4
Requirement Select <ul style="list-style-type: none"> • Elective (Generic) 		
Actual Credits		3

Requirement Select

- ENGL1020 - English Composition II

Actual Credits 3

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	First Semester	16

Requirement Select

- Elective (Generic)

Actual Credits 3

Requirement Select

- Financial and Digital Literacy

-

Actual Credits 3

Requirement Select

- GEOL1040 - Physical Geology
- OR
- GEOL1045 - Earth Environ Resrces Soc

Actual Credits 4

Requirement Select

- HIST2010 - Early United States History

Actual Credits 3

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	Second Semester	16

Requirement Select

- COMM2025 - Fundamentals of Communication
- OR
- PC2500 - Communicating in the Profess.

Actual Credits 3

Requirement Select

- ECON2010 - Principles of Microeconomics

Actual Credits 3

Requirement Select

- ESS2100 - Environment and Ethics

Actual Credits 3

Requirement Select

- HIST2020 - Modern United States History

Actual Credits 3

Requirement Select

- PHYS2010 - Algebra-based Physics I

Actual Credits 4

Year	Semester	Actual Credits
Junior Year	First Semester	15

Requirement Select

- BIOL3120 - General Ecology

OR

- BIOL3130 - General Ecology

Actual Credits 3 - 4

Requirement Select

- Elective (Generic)

Actual Credits 2 - 1

Requirement Select

- ESS3000 - Intro to Environmental Law

Actual Credits 3

Requirement Select

- ESS3200 - Nonprofit Org & the Environmnt

OR

- HIST3900 - Environmental History

Actual Credits 3

Requirement Select

- CHEM3005 - Elementary Organic Chemistry

Actual Credits 4

Year	Semester	Actual Credits
Junior Year	Second Semester	15

Requirement Select

- BIOL4220 - Biostatistics

OR

- MATH3070 - Statistical Methods I

Actual Credits 3

Requirement Select

- ESS3100 - Global Sust Issues/Initiatives

Actual Credits 3

Requirement Select

- ESS3710 - Chemistry and the Environment

Actual Credits 3

Requirement Select

- ESS4110 - Human Dimensions/Nat Res Mgmt
- OR
- SOC3600 - Environmental Sociology

Actual Credits 3

Requirement Select

- GEOL3200 - Water Resources

Actual Credits 3

Year	Semester	Actual Credits
Senior Year	First Semester	17

Requirement Select

- AGBE4120 - Natural Resource Economics
- OR
- ECON4120 - Natural Resource Economics

Actual Credits 3

Requirement Select

- AGRN3000 - Soils

Actual Credits 4

Requirement Select

- ESS4093 - Special Topics
- OR
- ESS4300 - Environmental Mgmt System
- OR
- ESS4900 - Internship

Actual Credits 3

Requirement Select

- ESS4001 - Society/Envrmt-Capstone Exp 1

Actual Credits 3

Requirement Select

- GEOL3550 - Paleoclimates
- OR
- GEOL4150 - Geomorphology

Actual Credits 4

Year	Semester	Actual Credits
Senior Year	Second Semester	13

Requirement Select

- BIOL4840 - Limnology
- OR
- WFS4730 - Conservation Biology

Actual Credits 3

Requirement Select

- Elective (Generic)

Actual Credits 4

Requirement Select

- ESS4002 - Society/Envmnt-Capstone Exp 2

Actual Credits

3

Requirement Select

- GEOG4510 - Theory of GIS I

Actual Credits

3

ESS-SUST - Environmental & Sustainability Studies, Environmental Sustainability Concentration, B.S.

Program Overview

Program Long Title

Environmental & Sustainability Studies, Environmental Sustainability Concentration, B.S.

College/School

Department(s)

Emerging and Integrative Studies

Environmental Studies

Degree Map

Degree Map Name

Degree Plan - Environmental and Sustainability Studies, Environmental Sustainability Concentration, B.S.

Total Degree Map Credits

120

Degree Map Effective Catalog Year

2425 -

Year	Semester	Actual Credits
Freshman Year	First Semester	15
Requirement Select <ul style="list-style-type: none"> BIOL1020 - Diversity of Life 		
	Actual Credits	4
Requirement Select <ul style="list-style-type: none"> ENGL1010 - English Composition I 		
	Actual Credits	3
Requirement Select <ul style="list-style-type: none"> Elective (Generic) 		
	Actual Credits	2 - 1
Requirement Select <ul style="list-style-type: none"> ESS1100 - Intro to Environmental Studies 		
	Actual Credits	3
<p style="text-align: right; color: red;">← ESS 1100 not approved as Flight Foundations course</p>		
Requirement Select <ul style="list-style-type: none"> MATH1710 - Pre-Calculus Algebra OR MATH1830 - Applied Calculus OR MATH1910 - Calculus I 		
	Actual Credits	3 - 4
Year	Semester	Actual Credits
Freshman Year	Second Semester	13
Requirement Select <ul style="list-style-type: none"> CHEM1010 - Introductory Chemistry I OR CHEM1110 - General Chemistry I 		
	Actual Credits	4
Requirement Select <ul style="list-style-type: none"> Elective (Generic) 		
	Actual Credits	3

Requirement Select

- ENGL1020 - English Composition II

Actual Credits 3

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	First Semester	16

Requirement Select

- ~~AGBE2010 - World Food and Society~~

Actual Credits ~~3~~

AGBE 2010 not approved as Flight Foundations course



Requirement Select

- Financial and Digital Literacy

Actual Credits 3

Requirement Select

- GEOL1040 - Physical Geology
- OR
- GEOL1045 - Earth Environ Resrces Soc

Actual Credits 4

Requirement Select

- HIST2010 - Early United States History

Actual Credits 3

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	Second Semester	16

Requirement Select

- COMM2025 - Fundamentals of Communication
- OR
- PC2500 - Communicating in the Profess.

Actual Credits 3

Requirement Select

- ECON2010 - Principles of Microeconomics

Actual Credits 3

Requirement Select

- ESS2100 - Environment and Ethics

Actual Credits 3

Requirement Select

- GEOG2100 - Weather and Climate Systems

Actual Credits 4

Requirement Select

- HIST2020 - Modern United States History

Actual Credits 3

Year	Semester	Actual Credits
Junior Year	First Semester	15

Requirement Select

- BIOL3120 - General Ecology

OR

- BIOL3130 - General Ecology

Actual Credits 3 - 4

Requirement Select

- Elective (Generic)

Actual Credits 3 - 2

Requirement Select

- ESS3000 - Intro to Environmental Law

Actual Credits 3

Requirement Select

- ESS3200 - Nonprofit Org & the Environmnt

OR

- HIST3900 - Environmental History

Actual Credits 3

Requirement Select

- ESS3710 - Chemistry and the Environment

Actual Credits 3

Year	Semester	Actual Credits
Junior Year	Second Semester	15

Requirement Select

- BIOL4220 - Biostatistics

OR

- MATH3070 - Statistical Methods I

Actual Credits 3

Requirement Select

- ESS3100 - Global Sust Issues/Initiatives

Actual Credits 3

Requirement Select

- ESS4093 - Special Topics

OR

- ESS4900 - Internship

Actual Credits 3

Requirement Select

- ESS4110 - Human Dimensions/Nat Res Mgmt
- OR
- SOC3600 - Environmental Sociology

Actual Credits 3

Requirement Select

- GEOL3200 - Water Resources

Actual Credits 3

Year	Semester	Actual Credits
Senior Year	First Semester	15

Requirement Select

- AGBE4120 - Natural Resource Economics
- OR
- ECON4120 - Natural Resource Economics

Actual Credits 3

Requirement Select

- AGR4600 - Global Food Sys: Sust & Insc
- OR
- AGRN3300 - Organic Farming
- OR
- HEC4315 - Global Social Sustainability
- OR
- GEOL3550 - Paleoclimates

Actual Credits 3

Requirement Select

- Elective (Generic)

Actual Credits 3

Requirement Select

- ESS4001 - Society/Envrmt-Capstone Exp 1

Actual Credits 3

Requirement Select

- ESS4300 - Environmental Mgmt System

Actual Credits 3

Year	Semester	Actual Credits
Senior Year	Second Semester	15

Requirement Select

- ECON4200 - Environmental Economics

Actual Credits 3

Requirement Select

- Elective (Generic)

Actual Credits 6

Requirement Select

- ESS4002 - Society/Envrmt-Capstone Exp 2

Actual Credits 3

Requirement Select

- WFS4730 - Conservation Biology

Actual Credits

3

ESS-TECH - Environmental & Sustainability Studies, Environmental Technology Concentration, B.S.

Program Overview

Program Long Title

Environmental & Sustainability Studies, Environmental Technology Concentration, B.S.

College/School

Department(s)

Emerging and Integrative Studies

Environmental Studies

Degree Map

Degree Map Name


Degree Plan - Environmental and Sustainability Studies, Environmental Technology Concentration, B.S.

Total Degree Map Credits

120

Degree Map Effective Catalog Year

2425 -

Year	Semester	Actual Credits
Freshman Year	First Semester	15
Requirement Select <ul style="list-style-type: none"> CHEM1110 - General Chemistry I 		
	Actual Credits	4
Requirement Select <ul style="list-style-type: none"> Elective (Generic) 		
	Actual Credits	1
Requirement Select <ul style="list-style-type: none"> ENGL1010 - English Composition I 		
	Actual Credits	3
Requirement Select <ul style="list-style-type: none"> ESS1100 - Intro to Environmental Studies 		
	Actual Credits	3
<p style="color: red; text-align: right;">ESS 1100 not approved as Flight Foundations course</p> 		
Requirement Select <ul style="list-style-type: none"> MATH1910 - Calculus I 		
	Actual Credits	4
Year	Semester	Actual Credits
Freshman Year	Second Semester	15
Requirement Select <ul style="list-style-type: none"> CHEM1120 - General Chemistry II 		
	Actual Credits	4
Requirement Select <ul style="list-style-type: none"> Elective (Generic) 		
	Actual Credits	1
Requirement Select <ul style="list-style-type: none"> ENGL1020 - English Composition II 		
	Actual Credits	3

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Requirement Select

- MATH1920 - Calculus II

Actual Credits 4

Year	Semester	Actual Credits
Sophomore Year	First Semester	16

Requirement Select

- BIOL1020 - Diversity of Life

Actual Credits 4

Requirement Select

- Financial and Digital Literacy

Actual Credits 3

Requirement Select

- ESS2100 - Environment and Ethics

Actual Credits 3

Requirement Select

- HIST2010 - Early United States History

Actual Credits 3

Requirement Select

- Humanities and Cultural Expression

Actual Credits 3

Year	Semester	Actual Credits
Sophomore Year	Second Semester	13

Requirement Select

- COMM2025 - Fundamentals of Communication
- OR
- PC2500 - Communicating in the Profess.

Actual Credits 3

Requirement Select

- ECON2010 - Principles of Microeconomics

Actual Credits 3

Requirement Select

- HIST2020 - Modern United States History

Actual Credits 3

Requirement Select

- PHYS2010 - Algebra-based Physics I

Actual Credits 4

Year	Semester	Actual Credits
Junior Year	First Semester	16

Requirement Select

- BIOL3130 - General Ecology
- OR
- BIOL3120 - General Ecology

Actual Credits 4

Requirement Select

- CEE3413 - Environmental Engineering

Actual Credits 3

Requirement Select

- Elective (Generic)

Actual Credits 3

Requirement Select

- ESS3000 - Intro to Environmental Law

Actual Credits 3

Requirement Select

- ESS3200 - Nonprofit Org & the Environmnt
- OR
- HIST3900 - Environmental History

Actual Credits 3

Year	Semester	Actual Credits
Junior Year	Second Semester	16

Requirement Select

- ESS3100 - Global Sust Issues/Initiatives

Actual Credits 3

Requirement Select

- ESS3710 - Chemistry and the Environment

Actual Credits 3

Requirement Select

- ESS4110 - Human Dimensions/Nat Res Mgmt
- OR
- SOC3600 - Environmental Sociology

Actual Credits 3

Requirement Select

- GEOL1040 - Physical Geology
- OR
- GEOL1045 - Earth Environ Resrces Soc

Actual Credits 4

Requirement Select

- MATH3070 - Statistical Methods I
- OR

- BIOL4220 - Biostatistics

Actual Credits 3

Year	Semester	Actual Credits
Senior Year	First Semester	15

Requirement Select

- AGBE4120 - Natural Resource Economics
- OR

- ECON4120 - Natural Resource Economics

Actual Credits 3

Requirement Select

- ESS/Environmental Technology - Directed Elective

Actual Credits 3

Requirement Select

- ESS4001 - Society/Envrmt-Capstone Exp 1

Actual Credits 3

Requirement Select

- ESS4300 - Environmental Mgmt System

Actual Credits 3

Requirement Select

- GEOG4510 - Theory of GIS I

Actual Credits 3

Year	Semester	Actual Credits
Senior Year	Second Semester	14

Requirement Select

- ESS/Environmental Technology - Directed Elective

Actual Credits 3

Requirement Select

- Elective (Generic)

Actual Credits 5

Requirement Select

- ESS4002 - Society/Envrmt-Capstone Exp 2

Actual Credits 3

Requirement Select

- GEOG4511 - Theory of GIS II

Actual Credits 3

Requirement Select

- Note: 1 Directed Electives · CEE 4410 (5410) - Solid and Hazardous Waste Management Credit: 3. · CEE 4430 (5430) - Water and Wastewater Engineering Credit: 3. · CEE 4450 (5450) - Water Quality Modeling Credit: 3. · ESS 4093 - Special Topics Credit: 3. · ESS 4900 - Internship Credit: 3. · GEOG 3200 - Water Resources Credit: 3. or · GEOL 3200 - Water Resources Credit: 3. · GEOG 4210 (5210) - Cartography Credit: 3. · GEOG 4650 (5650) - Environmental Applications of GIS Credit: 3. · GEOG 4850 (5850) - Advanced GIS Credit: 3. · GEOL 4711 (5711) - Hydrogeology Credit: 4. (Generic)

Actual Credits

-

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

11. ENGLISH – 1 Curriculum Update for Flight Foundations

Update the General Education Requirements in Rhetoric and Language

Category Name	Credit Hours
Quantitative Reasoning	3
Humanities and Cultural Expression	9
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	4
Digital and Financial Literacy	4
Total	41

Justification: These changes are consistent with the new university Flight Foundations general education core requirements. Reducing the Scientific Reasoning category to four credits and allotting four credit hours for Digital and Financial Literacy provide students with the opportunity to meet all of the new Flight Foundations requirements using the minimum and maximum ranges allowed.

Degree maps attached.

Financial Impact: None

Effective Date: Fall 2026

Four-Year Plan for B.A. Degree in English
Rhetoric and Language Concentration
 Tennessee Tech University
 Effective August 1, 2026

First Year			
Fall	Total Credit Hours: 16	Spring	Total Credit Hours: 16
Course	Cr. Hrs.	Course	Cr. Hrs.
ENGL 1010 English Composition I	3	Digital/Financial Literacy	4
Foreign Language *	3	ENGL 1020 English Composition II	3
Quantitative Reasoning	3	ENGL 2550 Language and Identity	3
Scientific Reasoning	4	Foreign Language *	3
Social/Behavioral Science	3	ENGL 1100 English Explorations	3

* Note: English majors meet the foreign language requirement by making a C or better in a foreign language course at the 2020 level or higher excluding Country and People and the Global Studies courses. Additional elective hours may be required if students do not take FREN/GERM/SPAN 1010 and 1020. These electives do not have to be foreign language courses.

Second Year			
Fall	Total Credit Hours: 15	Spring	Total Credit Hours: 16
Course	Cr. Hrs.	Course	Cr. Hrs.
COMM 2025 Fundamentals of Comm OR PC 2500 Communication in the Prof.	3	Electives	4
ENGL 2330 Topics in World Literature	3	ENGL 3000 Intro/English Method/Resrch	3
Foreign Language *	3	ENGL 3810 British Literature I	3
HIST 2010 Early U.S. History	3	ENGL 3910 American Literature I	3
Social/Behavioral Science	3	Foreign Language *	3

* Note: English majors meet the foreign language requirement by making a C or better in a foreign language course at the 2020 level or higher excluding Country and People and the Global Studies courses. Additional elective hours may be required if students do not take FREN/GERM/SPAN 1010 and 1020. These electives do not have to be foreign language courses.

Third Year			
Fall	Total Credit Hours: 15	Spring	Total Credit Hours: 15
Course	Cr. Hrs.	Course	Cr. Hrs.
Elective	3	ENGL 3920 American Literature II	3
ENGL 3820 British Literature II	3	ENGL 4121 Shakespeare	3
English (from blocks or courses at or above 3000-level)	6	English (from blocks or courses at or above 3000-level)	6
HIST 2020 (Modern U.S. History)	3	Humanities and Cultural Expression	3

Fourth Year					
Fall	Total Credit Hours: 15		Spring	Total Credit Hours: 12	
Course	Cr. Hrs.	Course	Cr. Hrs.	Course	Cr. Hrs.
Elective	3	Elective	3		
English (from blocks or courses at or above 3000-level)	12	ENGL 4995 Senior Colloquium	3		
		English (from blocks or courses at or above 3000-level)	6		

- Students choose courses from Blocks or courses at or above 3000-level as indicated below, for a total of 30 hours. Language and Rhetoric Block (choose any five courses): ENGL 4411 (5411), ENGL 4421 (5421), ENGL 4451 (5451), ENGL 4511 (5511), ENGL 4521 (5521), ENGL 4531 (5531), ENGL 4541 (5541), ENGL 4561 (5561) British Literature Block (choose one): ENGL 4111 (5111), ENGL 4130 (5130), ENGL 4140 (5140), ENGL 4210 (5210), ENGL 4221 (5221), ENGL 4231 (5231), ENGL 4240 (5240) American Literature (choose one): ENGL 4310 (5310), ENGL 4320 (5321), ENGL 4330 (5330), ENGL 4340 (5340), ENGL 4712 (5712), ENGL 4713 (5713), ENGL 4830 (5830) The remaining 9 hours of upper-division ENGL courses must be taken from any ENGL courses 3000 or above EXCEPT core courses. (The upper-division core courses are ENGL 3000, 3810, 3820, 3910, 3920, 4121 (5121), and 4995.)
- Students in the Rhetoric and Language Concentration can also have a concentration in Professional and Technical Communication by using elective hours to complete 24 credit hours from the following courses (the nine credit hours from the Professional Communication Core are required): PC 2500 - Communicating in the Professions PC 3250 - Professional Communication I PC 4850 (5850) - Internship and 15 additional hours from the following: PC 3500 - Rhetoric and the Internet PC 3700 Information Design in the Professions PC 3750 - Ethics in the Professions PC 4850 (5850) - Internship PC 4940 (5940) - Technical Editing PC 4950 (5950) - Topics in Professional and Technical Communication PC 4970 (5970) - Professional Communication II PC 4990 Business and Grant Proposal Writing 3 When necessary, a committee of the instructor of record, the department chair, and the literature concentration advisor will determine if and how courses with primarily Anglophone Literature fit into the existing curriculum for the British/American blocks. Suitably designated courses may be substituted for the courses currently listed in those blocks, contingent upon approval of the majority of the committee.

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

12. CHEMICAL ENGINEERING: 5 new courses, 4 curriculum changes for Flight Foundations

JUSTIFICATION

To ameliorate the process of recruiting, admitting and advising transfer students, the Department of Chemical Engineering is proposing curriculum changes to make transitioning from a community college or other institutions easier while improving program delivery and retention of first-year students. Currently, the department's foundational sophomore-level courses (CHE 2015 – 3 cr. /CHE 2020 – 3 cr.) are only taught once a year, in the fall and spring, respectively, and are prerequisites for the junior level chemical engineering courses. This creates a barrier for transfer students who have completed an Associates degree from a community college and transfer to TN Tech intending to begin taking junior level courses. Unlike sophomore-level foundational courses in other disciplines, it is highly unusual to find equivalent courses offered at community colleges, or schools that do not offer a chemical engineering degree.

This issue in recruiting transfer students is common to most chemical engineering departments; however, many address the issue by offering a single, 4 credit hour course, often taught in the fall, spring and summer. Changing to this model is the department's current proposal: replacing CHE 2015 (3 cr.) and CHE 2020 (3 cr.) with CHE 2050 (4 cr.). This new course will cover all the foundational chemical engineering content covered in the current two-course sequence and offer flexibility to both transfer students and current students who may be able to take the course in the spring or summer, if they do not yet have the prerequisites fulfilled in the fall of their sophomore year.

This change to a single, 4 credit hour course will require that some of the instruction provided throughout the two courses sequence related to the use of computational tools is removed. To accommodate this, the department is proposing to move this content to the first-year courses (CHE 1010 and CHE 1020), increasing their credit hours from 1 to 2 (which requires changing their course numbers; CHE 1015 and CHE 1025, respectively), and spreading the instruction of computational tools (Excel/VBA, MATLAB, Python) over these two courses. This update would make it a required course. Because of this shift of computational tools to the first year, the department proposes to remove ENGR 1120 (2 cr.) from the curriculum. The department notes that while CHE 1010 is currently *recommended* for first-year students, it is *not currently a required course*.

These curriculum modifications involve a number of credit hour changes to the curriculum, detailed below:

Course/Change	Effect on Credit
Change of CHE 2015 (3 cr.)/CHE 2020 (3 cr.) to CHE 2050 (4 cr.)	- 2 credits
Addition of CHE 1015 (2 cr.) to the curriculum	+ 2 credits
Change of CHE 1020 (1 cr.) to CHE 1025 (2 cr.)	+1 credit
Removal of ENGR 1120 from the curriculum	-2 credits
Net effect	-1 credit

Thus, from the changes proposed above, there is a one credit hour deficit. Rather than being a problem, the department felt that credit could be shifted to the senior-level Chemical Engineering Capstone Lab course (CHE 4250 2 cr.), making it a 3-credit hour course (requiring the new course number CHE 4255), which the department believes is more representative of the effort and time that students are already putting into the course. (Note: there are some “or” prerequisites that are removed in this change to CHE 4255 below to reflect courses that are no longer taught. Additionally, we are changing this to a 2 or 3 credit hour option as the students who take it in the next two years will be on a catalog that requires the 2 credit hour version.)

An additional new course (CHE 1050-001– Introduction to Chemical Engineering and Professional Skills) is also proposed below as a *summer only hybrid* of CHE 1015 and 1025 which will be taken with CHE 2050 when it is offered in the summer to insure that *incoming transfer students* not only have the foundational chemical engineering skills, but also the professional, ethical and computations skills expected in later courses. This course will substitute for CHE 1025 in the curriculum; transfer students often have additional credits which will make up for CHE 1015. If they do not, they would need to take an additional course to meet credit requirements. Although the course will cover a large number of topics/objectives, transfer students taking this course will have more college-level experience than first year students and will likely have some familiarity with many of the concepts.

A second change made in this proposal is updating the Chemical Engineering Curriculum to align with the new Flight Foundations general education courses. To fulfill the Financial or Digital Literacy requirement, the department is adding a FIN 2000 – Personal Finance to the curriculum and decreasing the required hours for Humanities/Cultural Expression from 9 to 6, retaining the requirement that 3 credits must be in literature (thus the Humanities/Cultural Expression requirement for Chemical Engineering will be one approved Flight Foundations literature course plus one additional course in the Flight Foundations Humanities/Cultural Expression requirement).

Flight Foundations Updates	
Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression 3 hours – Literature 3 hours – Any Humanities and Cultural Expression	6
Social and Behavior Sciences	6
Communication	9
Scientific Reasoning	8
Financial or Digital Literacy – FIN 2000	3

Effective Date: Fall 2026

Financial Impact: None

COURSE ADDITIONS

1. CHE – 1015 – Introduction to Chemical Engineering

Lec. 2 Credits 2

Prerequisites: None

Catalog Description: First year experience course focused introducing students to chemical engineering, building transferable skills for career development and introducing students to computational and programming tools such as such as Excel/VBA, MatLab and Python.

2. CHE – 1025 – Professionalism, Ethics & Skills for ChE

Lec. 2 Credits 2

Prerequisites: CHE 1015 or permission of the Department

Catalog Description: First year experience course focusing on the development of professionalism and professional ethics using examples from the chemical industry. Development basic skills related to unit conversions and computational/programming skills (Excel/VBA, MATLAB, Python) applied to problems relevant to chemical processes.

3. CHE – 1050 – Introduction to ChE and Professional Skills

Lec. 2 Credits 2

Prerequisites: Permission of the Department, corequisite CHE 2050.

Catalog Description: First year experience course introducing students to chemical engineering, professionalism and ethics using examples from the chemical industry. The course will build transferable skills for career development and introduce students to computational and programming tools such as Excel/VBA, MATLAB and Python applied to problems relevant to chemical processes.

4. CHE – 2050 – Material & Energy Balances

Lec. 4 Credits 4

Prerequisites: CHE 1025 as prerequisite or CHE 1050 as corequisite. CHEM 1120, MATH 1920, minimum grade of C.

Catalog Description: Introduction to basic concepts of chemical engineering including balance concepts and mathematical tools such as Excel, MATLAB and Visual Basic. Conservation of mass and energy for multicomponent unit operations including phase changes and chemical reactions. Quantitative descriptions of chemical and biological engineering systems at scales from molecular to macroscopic.

5. CHE – 4255 – Chemical Engineering Capstone Laboratory

1 Lecture hour: 4 Lab hours: Credits 3

Prerequisites: CHE 3510, CHE 3550, CHE 4050, CHE 4060, CHE 4410, CHEM 3010 (may be taken concurrently)

Catalog Description: Project serves as a culminating experience for the student. Project content varies depending on the interests of the student, project team, and project sponsors. Projects serve to integrate junior- and senior-level coursework, promote an understanding of team dynamics and the development of project management skills. *Senior Standing in Chemical Engineering: Transfer Science I, II, III; Thermodynamics, Process Design I; Organic Chemistry I; Chemical Reaction Engineering. Senior Standing by cumulative credit hours is not adequate.

NOTE: The change from CHE 2015/2020 to CHE 2050 will require course updates for courses that require CHE 2015/2020 as a prerequisite, which will be processed later in the spring or early fall of 2026, before students progress into those courses.

Tennessee Tech University
Chemical Engineering
CHE 1015-001– Introduction to Chemical Engineering

Tuesday & Thursdays, 12:00-12:50PM, Prescott 215, 2 credits, Fall 2026

Instructor Information

Instructor: Dr. Kevin N. West
email: kwest@tntech.edu

office: Prescott 214
phone: 931.372.3606

Instructor: Dr. Christy Wheeler West
email: cwwest@tntech.edu

office: Prescott 314
phone: 931.372.3667

Mentors

Mrs. Becky Asher
email: rasher@tntech.edu

office: Prescott 214
phone: 931.372.3189

Mrs. Mary Daniels
email: mdaniels@tntech.edu

office: Clement 201
phone: 931.372.3845

Office Hours: TBD – will be listed at the top of the iLearn Course page under Announcements

Course Information

Prerequisites: None.

Texts and References: None

Required Software: MS Excel (Available free from TNTech)

Recommended References: Knovel Online Database – available through the AIChE eLibrary with free undergraduate student membership to AIChE:

<https://www.aiche.org/membership/student>

Course Description: First year experience course focused introducing students to chemical engineering, building transferable skills for career development and introducing students to computational and programming tools such as such as Excel/VBA, MatLab and Python.

This course is designed to introduce new students to the department, college and university, and equip them with the foundational skills which will enable them to succeed throughout their academic career.

Course Objectives/Student Learning Outcomes

The student will be able to:

1. Identify key members of CHE faculty and staff and areas of Prescott Hall and other Engineering Buildings
2. Find key information about department, college and university services that they may need during their time at Tech
3. Understand the basics of teamwork and presentation skills
4. Identify opportunities within CHE, the student chapter of the American Institution of Chemical Engineers (AIChE), the college and university
5. Recognize and begin to utilize the NACE (National Association of Colleges & Employers) Competencies to build career readiness (Tennessee Tech Gold Career Readiness Certification)
6. Use Microsoft Excel to perform calculations involving formulas and referenced cells, and plot figures properly
7. Perform calculations using programming/computational tools such as VBA/Excel, MATLAB or Python

Major Teaching Methods:

Lecture, discussion, occasional videos online:

Special Instructional Platform/Materials:

You will occasionally be required to bring your laptop to class for in-class exercises.

Topics to be Covered

- Familiarization of new CHE students with the department, the faculty and staff, and Prescott Hall.
- Familiarization of new CHE students with the university services
- Teamwork, communication, and study skills
- NACE Competencies (National Association of Colleges and Employers)
- MS Excel
- Introduction to programming using VBA/Excel, MATLAB and/or Python

Course Schedule

The course meets twice a week for 50 minutes each. Typically, one meeting a week will focus on transferable and professional skills (Course Objectives 1-5) and one meeting a week will focus on building computational skills (Course Objectives 6-7). A Course Assignment sheet provided separately and will be available and updated on the course iLearn site. The assignment sheet outlines the material that will be covered each day by section of the text. Often, you will be *expected* to read material and work through the tasks for a given day *before coming to class* on that day. Failure to do so will seriously impede your ability to participate in class and this will affect your mastery of the material and keep up in the course.

Projects

Grading and Evaluation Procedures

Grading: Grades in the course will be assigned based on completion/mastery basis using the following guidelines:

To earn an A, the student will:

- Have no more than 1 unexcused absence*
- Complete all the requirements for the Gold Career Readiness Certificate, 90% by their due dates
- Complete all additional assignments (SH, TP, EX) by their due date
- Actively participate in class discussions, peer reviews and in-class exercises
- Demonstrate a high level of knowledge about and contribution to the team project
- Score at least 11/15 points on required discussion posts** on iLearn

To earn a B, the student will:

- Have no more than 2 unexcused absences*
- Complete all the requirements for the Gold Career Readiness Certificate, 80% by their due dates
- Complete all additional assignments (SH, TP, EX) by their due date
- Actively participate in class discussions, peer reviews and in-class exercises
- Demonstrate a moderate level of knowledge about and contribution to the team project
- Score at least 10/15 points on required discussion posts** on iLearn

To earn a C, the student will:

- Have no more than 3 unexcused absences*
- Complete all the requirements for the Gold Career Readiness Certificate, 50% by their due dates
- Complete all additional assignments (SH, TP, EX)
- Participate in class discussions, peer reviews and in-class exercises
- Demonstrate some level of knowledge about and contribution to the team project
- Score at least 8/15 points on required discussion posts** on iLearn

To earn a D, the student will:

- Have no more than 4 unexcused absences*
- Complete all the requirements for the Gold Career Readiness Certificate
- Complete all additional assignments (SH, TP, EX)
- Participate in some class discussions, peer reviews and in-class exercises
- Demonstrate a low level of knowledge about and contribution to the team project
- Score at least 5/15 points on required discussion posts** on iLearn

Failure to complete the minimum requirements to earn a D will result in a grade of F.

*An unexcused absence is defined as missing class without sending the instructors an explanation via email within 24 hours of missing the class. Valid excuses are determined at the discretion of the instructor. If the absence is one that can be known in advance, the email must be sent 24 hours prior to class.

**Each of 5 discussion posts will be graded as follows: 3 points – thoughtful, well-written post; 2 points – somewhat thoughtful, passible grammar, 1 point – clearly low effort, bare minimal post, 0 points – no post.

Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding academic integrity violations. All students must read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Attendance Policy

Attendance is expected for each student every day. There will be material covered in class which is not necessarily available in the text and students will benefit from in-class discussions

Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Students are expected to be attentive and respectful in class and participate in any in-class activities. Some activities will involve using Excel in class and the instructor will notify students in advance when they should have their laptops available.

Assignments and Related Policy

In general, late assignments will not be accepted, except in case of circumstances beyond the control of the student at the discretion of the instructor.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

Tutoring

The university provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Health and Wellness

Counseling Center

The Counseling Center offers brief, short-term, solution-focused therapeutic interventions for Tennessee Tech University students. The staff of the Counseling Center is available to assist students with their personal and social concerns in hopes of helping them achieve satisfying educational and life experiences. To learn more or schedule an appointment, visit the [Counseling Center website](#).

Health Services

Health Services offers high-quality, affordable care that is accessible and promotes the health and wellness of our Tennessee Tech community. Visit the [Health Services](#) website to learn more.

Pandemic Protocols

Each student must take personal responsibility for knowing and following any University protocol related to pandemics and other public health events. Students are expected to follow all directives published by Tennessee Tech on its official webpage. As conditions related to the COVID-19 pandemic change, the University's COVID-19 protocols are also likely to change. Students are expected to monitor the University's official webpage to stay up to date on public health protocols.

Generative AI Policy Statement

In this course, Generative AI resources (ChatGPT, Gemini, Claude, etc.) are allowed to be used for specific assignments or within set parameters, as designated by the instructor. The default policy will be that Generative AI is not allowed on assignment, and its use must be specifically permitted by the instructor on each assignment.

To ensure academic integrity, students ***must openly disclose*** any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

To indicate the use of a Generative AI resource, a student should include the following statement in their assignments: "The author(s) acknowledge the utilization of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was employed in the following manner(s) within this assignment [e.g., brainstorming, grammatical correction, citation, specific section of the assignment]."

Proper citation guidelines can be found on the CITL website.

Tennessee Tech University
Chemical Engineering
CHE 1025-001– Professionalism, Ethics & Skills for ChE

Tuesdays & Thursdays, 12:00-12:50PM, Prescott 215, 2 credits, Spring 2027

Instructor Information

Spencer Legins
email: slegins@tntech.edu

office: Prescott 349

Office Hours: TBD – will be listed at the top of the iLearn Course page under Announcements

Course Information

Prerequisites:	CHE 1015 or approval of the department
Texts and References:	Digital and/or physical copies of necessary materials will be provided.
Required Software:	MS Excel (Available free from TNTech)
Recommended References:	Knovel Online Database – available through the AIChE eLibrary with free undergraduate student membership to AIChE: https://www.aiche.org/membership/student
Course Description:	First year experience course focusing on the development of professionalism and professional ethics using examples from the chemical industry. Development basic skills related to unit conversions and computational/programming skills (Excel/VBA, MATLAB, Python) applied to problems relevant to chemical processes.

This course is designed to introduce new students to the department, college and university, and equip them with the foundational skills which will enable them to succeed throughout their academic career.

Course Objectives/Student Learning Outcomes

The student will be able to:

1. Recognize ethical principles/responsibilities in a range of contexts that consider the impact of global, economic, environmental, and societal contexts.
2. Provide effective written communication in describing ethical principles related to design components of an engineering system.
3. Provide progress toward excel proficiency through projects.
4. Demonstrate an ability to communicate with a range of audiences.
5. Perform basic calculations related to chemistry or chemical engineering using computational tools such as VBA/Excel, MATLAB or Python.
6. Convert units quickly and accurately

Major Teaching Methods:	Lecture, class and small-group discussions, case studies, and individual written reflections, occasional videos online.
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Special Instructional Platform/Materials:	You will occasionally be required to bring your laptop to class for in-class exercises.
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Topics to be Covered

- AIChE and other Codes of Ethics and their application
- Teamwork and communication skills.
- AIChE and other Codes of Ethics and their application
- MS Excel
- Programming using VBA/Excel, MATLAB and/or Python

Course Schedule

The course meets twice a week for 50 minutes each. Typically, one meeting a week will focus on transferable and professional skills (Course Objectives 1-4) and one meeting a week will focus on building computational skills (Course Objective 5). A Course Assignment sheet provided separately and will be available and updated on the course iLearn site. The assignment sheet outlines the material that will be covered each day by section of the text. Often, you will be *expected* to read material and work through the tasks for a given day *before coming to class* on that day. Failure to do so will seriously impede your ability to participate in class and this will affect your mastery of the material and keep up in the course.

Grading and Evaluation Procedures

<u>Grading Scale</u>		<u>Weighting of Assignment</u>	
Grade	% Score		
A	90-100	Attendance	10%
B	80-89	Reflections	25%
C	70-79	Quizzes	15%
D	60-69	Group Project	30%
F	<59	Excel Problem	20%

Reflections: Students will complete a total of 4 reflections over the course of the semester. Reflections should be 150 – 300 words in length and submitted via iLearn.

Quizzes: Knowledge of topics and cases covered will be assessed through quizzes. Quizzes on iLearn and taken in class will be open notes.

Final Project: Students will complete a team-based project that will incorporate all major topics discussed during the semester. Students will select their project topic from criteria provided by the instructor and will present their work during finals week.

Excel Problem: Students will solve a given problem that requires the use of new techniques in Excel. The problem topic will be presented later in the course.

Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding academic integrity violations. All students must read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Attendance Policy

Attendance is expected for each student every day. There will be material covered in class which is not necessarily available in the text and students will benefit from in-class discussions

Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Students are expected to be attentive and respectful in class and participate in any in-class activities. Some activities will involve using Excel in class and the instructor will notify students in advance when they should have their laptops available.

Assignments and Related Policy

In general, late assignments will not be accepted, except in case of circumstances beyond the control of the student at the discretion of the instructor.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

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For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

Tutoring

The university provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Health and Wellness

Counseling Center

The Counseling Center offers brief, short-term, solution-focused therapeutic interventions for Tennessee Tech University students. The staff of the Counseling Center is available to assist students with their personal and social concerns in hopes of helping them achieve satisfying educational and life experiences. To learn more or schedule an appointment, visit the [Counseling Center website](#).

Health Services

Health Services offers high-quality, affordable care that is accessible and promotes the health and wellness of our Tennessee Tech community. Visit the [Health Services](#) website to learn more.

Pandemic Protocols

Each student must take personal responsibility for knowing and following any University protocol related to pandemics and other public health events. Students are expected to follow all directives published by Tennessee Tech on its official webpage. As conditions related to the COVID-19 pandemic change, the University's COVID-19 protocols are also likely to change. Students are expected to monitor the University's official webpage to stay up to date on public health protocols.

Generative AI Policy Statement

In this course, Generative AI resources (ChatGPT, Gemini, Claude, etc.) are allowed to be used for specific assignments or within set parameters, as designated by the instructor. The default policy will be that Generative AI is not allowed on assignment, and its use must be specifically permitted by the instructor on each assignment.

To ensure academic integrity, students ***must openly disclose*** any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

To indicate the use of a Generative AI resource, a student should include the following statement in their assignments: "The author(s) acknowledge the utilization of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was employed in the following manner(s) within this assignment [e.g., brainstorming, grammatical correction, citation, specific section of the assignment]."

Proper citation guidelines can be found on the CITL website.

Tennessee Tech University
Chemical Engineering
CHE 4255-001– Chemical Engineering Capstone Laboratory
Wednesday, 4:00-6:50PM
Prescott 215, 3 credits, Spring 2027

Instructor Information

Instructor: Dr. Kevin Bray
email: kbray@ntech.edu

phone: 607-377-1668

Office Hours: TBD – will be listed at the top of the Canvas Course page under Announcements

Course Information

Prerequisites: Prerequisites: CHE 4050, CHE 4060, CHE 4410, CHEM 3010 (may be taken concurrently)

Texts and References: N/A

Course Description: Project serves as a culminating experience for the student. Project content varies depending on the interests of the student, project team, and project sponsors. Projects serve to integrate junior- and senior-level coursework, promote an understanding of team dynamics and the development of project management skills. *Senior Standing in Chemical Engineering: Transfer Science I, II, III; Thermodynamics, Process Design I; Organic Chemistry I; Chemical Reaction Engineering. Senior Standing by cumulative credit hours is not adequate.

Course Objectives/Student Learning Outcomes

The student will be able to:

1. Define project goals
2. Complete background research related to their topic
3. Design an experiment centered on a hypothesis or design specification
4. Gather the resources for the experiment within the scope of their budget
5. Execute an experiment with proper controls and calibration
6. Analyze the data in the context of relevant theory
7. Document and communicate the results
8. Work effectively in a team and enhance their team building skills
9. Understand safety considerations related to their project

Major Teaching Methods:

This course meets weekly on Wednesdays from 4-6:50, however, once projects have been assigned, this time is typically used for shorter update meetings with the instructor, with much of allocated time being used flexibly and scheduled when lab resources, which will be different for each team, are available.

Student Teams will resource, design, execute and present an experiment based on one of the projects. Laboratory space will be provided in PRSC or AIEB. A faculty member or other mentor will be assigned to each project to provide technical support and guidance to Student Teams.

Each Student Team will meet weekly with the instructor to provide updates on progress and receive assistance to complete projects. Student Teams should prepare a project status summary in advance of the weekly meeting and present it during the weekly meeting. The instructor will provide feedback and suggestions. Ten-minute meetings with individual teams will be scheduled by the instructor on Wednesday afternoons each week during the semester.

Course Schedule

Due dates for assignments and schedules for assessment will be posted on the iLearn calendar.

Grading Scale

Scores will be calculated based on these weightings:

30% Formal Project Proposal – 30% Due March 10, 2027

40% Poster & Presentation – 40%

Poster – Electronic Copy to Instructor – Due April 21, 2027

Poster – Electronic Copy to Student Success Center – Due April 21, 2027

Poster Presentation – TBD

The poster presentation will be judged by faculty and other interested people. Students should be prepared to describe the experiments completed, results, and significance of the project to a general audience.

30% Final Project Report – Due May 5, 2027

Final grades will be assigned based on these ranges:

Letter Grade	Score Range
A	90+
B	80-89
C	70-79
D	60-69
F	59 and below

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Proper citation guidelines can be found on the CITL website.

CURRICULUM CHANGES

Changes are shown to the standard B.S. Chemical Engineering curriculum, however, equivalent changes will be made for each of the concentrations (Biomolecular, Energy & the Environment, Chemical Process Manufacturing) as all of the course changes are common to all concentrations, although specific electives which are unaffected by these changes may vary:

Sample Chemical Engineering B.S (changes to first, second, third, fourth and eighth semesters):

First Semester

Current: 13(14) credits	Proposed: 16 credits
MATH 1910 – 4 credits	MATH 1910 – 4 credits
CHEM 1110 – 4 credits	CHEM 1110 – 4 credits
ENGL 1010 – 3 credits	ENGL 1010 – 3 credits
ENGR 1120 – 2 credits	CHE 1015 – 2 credits
(CHE 1010 – 1 credit recommended, not required)	Social/Behavior Science Elective – 3 credits

Second Semester

Current: 15 credits	Proposed: 16 credits
MATH 1920 – 4 credits	MATH 1920 – 4 credits
CHEM 1120 – 4 credits	CHEM 1120 – 4 credits
ENGL 1020 – 3 credits	ENGL 1020 – 3 credits
Humanities/Fine Arts Elective – 3 credits	Humanities/Fine Arts Elective – 3 credits
CHE 1020 – 1 credit	CHE 1025 – 2 credits

Third Semester

Current: 17 credits	Proposed: 15 credits
MATH 2110 – 4 credits	MATH 2110 – 4 credits
PHYS 2110 – 4 Credits	PHYS 2110 – 4 Credits
ENGL 2130, 2235 or 2330 – Lit. Elect. - 3 credits	ENGL 2130, 2235 or 2330 – Lit. Elect. - 3 credits
Social/Behavior Science Elective – 3 credits	-
CHE 2015 – 3 credits	CHE 2050 – 4 credits

Fourth Semester

Current: 15 credits	Proposed: 15 credits
MATH 2120 – 3 credits	MATH 2120 – 3 credits
PHYS 2120 – 4 credits	PHYS 2120 – 4 credits
CHE 3735 – 2 credits	CHE 3735 – 2 credits
COMM 2025 or PC 2500 – 3 credits	COMM 2025 or PC 2500 – 3 credits
CHE 2020 – 3 credits	FIN 2000 – 3 credits

Eighth Semester

Current: 18 credits	Proposed: 19 credits
CHE 4540 – 3 credits	CHE 4540 – 3 credits
CHE 4420 – 3 credits	CHE 4420 – 3 credits
CHE xxxx – 3 credits (ChE Tech Elective)	CHE xxxx – 3 credits (ChE Tech Elective)
CHE xxxx – 3 credits (ChE Tech Elective)	CHE xxxx – 3 credits (ChE Tech Elective)
CHEM 3520 – 4 credits	CHEM 3520 – 4 credits
CHE 4250 – 2 credits	CHE 4255 – 3 credits

Financial Obligations: None.



Degree Map

CATALOG YEAR: 2026-2027

Degree: BSChE

MAJOR: Chemical Engineering
CONCENTRATION: Bio-Molecular Engineering(BMOL)

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 17	
CHE 1015 Intro to Chemical Engineering	2	CHE 1025 CHE Prof., Ethics, & Skills	2
MATH 1910 Calculus I	4	MATH 1920 Calculus II	4
CHEM 1110 General Chemistry I	4	BIOL 1113 General Biology I	4
ENGL 1010 Writing Composition I	3	CHEM 1120 General Chemistry II	4
Social/Behavioral Science Elective	3	ENGL 1020 Writing Composition II	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 14		Semester: Spring Total Credit Hours: 17	
CHE 2050 Material & Energy Balances	4	FIN 2000 – Personal Finance	3
MATH 2110 Calculus III	4	MATH 2120 Differential Equations	3
PHYS 2109 Cal based Physics I	3	PHYS 2119 Cal based Physics II	3
Humanities/Fine Arts Elective	3	CHE 3735 ChE Operations	2
		ENGL 2130, 2235, or 2330 Lit.	3
		COMM 2025 or PC 2500 Communication	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR¹			
Semester: Fall Total Credit Hours: 19		Semester: Spring Total Credit Hours: 16	
CHE 3010 Thermo of ChE Processes	3	CHE 3510 Sep and Sol Thermo	3
CHE 3050 TS1: Cond, Radiation, Diff	3	CHE 3511 Sep and Sol Thermo Lab	1
CHE 3051 TS1: Cond, Radiation, Diff Lab	1	CHE 3550 TS2: Fluid Mechanics	3
BIOL 3200 or BIOL 3230 Gen/Health Micro	4	CHE 3551 TS2: Fluid Mechanics Lab	1
CHEM 3010 Organic Chemistry I	4	CHEM 3020 Organic Chemistry II	4
CHEM 3510 Physical Chemistry I	4	CHE 3140 Biotechnology & Bioprocess Eng	4
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 14		Semester: Spring Total Credit Hours: 15	
CHE 4050 TS3: Diff and Mass Transfer	3	CHE 4255 ChE Capstone Lab	3
CHE 4051 TS3: Diff and Mass Transfer Lab	1	CHE 4420 Process Design II	3
CHE 4060 ChE Reaction Engineering	3	CHE 4540 Process Dynamics and Control	3
CHE 4061 ChE Reaction Engineering Lab	1	CHE 4661 Transport in Bio Processes	3
CHE 4410 Process Design I	3	Social/Behavioral Science Elective	3
CHEM 4610 General Biochemistry	3		

Notes: (Chemical Engineering (CHE) courses generally only offered in the semester listed above)

1. Students must apply to the ChE BS/MS Fast-Track program by the end of their second junior term.



Degree Map

CATALOG YEAR: 2026-2027

Degree: BSChE

MAJOR: Chemical Engineering
CONCENTRATION: Chemical Process Manufacturing (CPM)

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 16	
CHE 1015 Intro to Chemical Engineering	2	CHE 1025 CHE Prof., Ethics, & Skills	2
MATH 1910 Calculus I	4	MATH 1920 Calculus II	4
CHEM 1110 General Chemistry I	4	Social/Behavioral Science Elective	3
ENGL 1010 Writing Composition I	3	CHEM 1120 General Chemistry II	4
Social/Behavioral Science Elective	3	ENGL 1020 Writing Composition II	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 14		Semester: Spring Total Credit Hours: 17	
CHE 2050 Material & Energy Balances	4	FIN 2000 – Personal Finance	3
XXX xxxx: CPM Elective ²	3	CHE 3735 ChE Operations	2
MATH 2110 Calculus III	4	PHYS 2119 Cal-based Physics II	3
PHYS 2109 Cal-based Physics I	3	MATH 2120 Differential Equations	3
		COMM 2025 or PC 2500 Communication	3
		ENGL 2130, 2235, or 2330 Lit.	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR¹			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 15	
CHE 3010 Thermo of ChE Processes	3	CHE 3510 Sep and Sol Thermo	3
CHE 3050 TS1: Cond, Radiation, Diff	3	CHE 3511 Sep and Sol Thermo Lab	1
CHE 3051 TS1: Cond, Radiation, Diff Lab	1	CHE 3550 TS2: Fluid Mechanics	3
CHEM 3010 Organic Chemistry I	4	CHE 3551 TS2: Fluid Mechanics Lab	1
CHE 3340 Industry 4.0	3	CHEM 3020 Organic Chemistry II	4
Humanities/Fine Arts Elective	3	CHE 4400 Engineering Safety	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 18	
CHE 4050 TS3: Diff and Mass Transfer	3	CHE 4255 ChE Capstone Lab	3
CHE 4051 TS3: Diff and Mass Transfer Lab	1	CHE 4420 Process Design II	3
CHE 4060 ChE Reaction Engineering	3	CHE 4540 Process Dynamics and Control	3
CHE 4061 ChE Reaction Engineering Lab	1	XXX xxxx: CPM Elective ²	3
CHE 4410 Process Design I	3	MET 4650: Lean Six Sigma	3
CHEM 3510 Physical Chemistry I	4	CHE 4560: Agile Manufacturing	3

Notes: (Chemical Engineering (CHE) courses generally only offered in the semester listed above)

- Students must apply to the ChE Fast-Track MS program by the end of their second junior term.
- Two courses related to CPM must be from the following list: **CHEM 3410 – Quantitative Analysis (4)** | CHE 3745 – Innovation in Energy (3) | CHEM 4210 – Chemistry of Polymers (3) | CHE 4330 – Polymer Engineering (3) | CHE 4340 – Introduction to Rheology (3) | **CHEM 4520 – Instrumental Analysis (4)** | CHE 4990 – Intro to Research (Credit 1 to 3 per semester.)
 - A Minor in Chemistry can be earned by completing both of the courses in bold in addition to other courses in the program. Please consult with advisor for details.



Degree Map

CATALOG YEAR: 2026-2027

Degree: BSChE

MAJOR: Chemical Engineering

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 16	
CHE 1015 Intro to Chemical Engineering	2	CHE 1025 CHE Prof., Ethics, & Skills	2
MATH 1910 Calculus I	4	Humanities/Fine Arts Elective	3
CHEM 1110 General Chemistry I	4	MATH 1920 Calculus II	4
ENGL 1010 Writing Composition I	3	CHEM 1120 General Chemistry II	4
Social/Behavioral Science Elective	3	ENGL 1020 Writing Composition II	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 15	
CHE 2050 Material & Energy Balances	4	FIN 2000 – Personal Finance	3
MATH 2110 Calculus III	4	MATH 2120 Differential Equations	3
PHYS 2110 Cal based Physics I w/ Lab	4	PHYS 2120 Cal based Physics II w/ Lab	4
ENGL 2130, 2235, or 2330 Lit.	3	CHE 3735 ChE Operations	2
		COMM 2025 or PC 2500 Communication	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR¹			
Semester: Fall Total Credit Hours: 14		Semester: Spring Total Credit Hours: 18	
CHE 3010 Thermo of ChE Processes	3	CHE 3510 Sep and Sol Thermo	3
CHE 3050 TS1: Cond, Radiation, Diff	3	CHE 3511 Sep and Sol Thermo Lab	1
CHE 3051 TS1: Cond, Radiation, Diff Lab	1	CHE 3550 TS2: Fluid Mechanics	3
CHEM 3010 Organic Chemistry I	4	CHE 3551 TS2: Fluid Mechanics Lab	1
XXX xxxx Tech Elective ²	3	CHEM 3020 Organic Chemistry II	4
		XXX xxxx Tech Elective ²	3
		Social/Behavioral Science Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 19	
CHE 4050 TS3: Diff and Mass Transfer	3	CHE 4255 ChE Capstone Lab	3
CHE 4051 TS3: Diff and Mass Transfer Lab	1	CHE 4540 Process Dynamics and Control	3
CHE 4060 ChE Reaction Engineering	3	CHE xxxx ChE Tech Elective ³	3
CHE 4061 ChE Reaction Engineering Lab	1	CHE xxxx ChE Tech Elective ³	3
CHE 4410 Process Design I	3	CHE 4420 Process Design II	3
CHEM 3510 Physical Chemistry I	4	CHEM 3520 Physical Chemistry II	4

Notes: (Chemical Engineering (CHE) courses generally only offered in the semester listed above)

- Students must apply to the ChE BS/MS Fast-Track program by the end of their second junior term.
- Tech Electives can be from any of the following courses:
 - Any College of Engineering course at 3000 or 4000 level
 - Any BIOL/CHEM/MATH/PHYS/ESS course at 3000 or 4000 level
 - Any course with the prior approval of the CHE Undergraduate Program Coordinator
- CHE Tech Elective must be from the following courses: CHE 3340 – Industry 4.0 (3) | CHE 3745 Innovation in Energy (3) | CHE 4400 - Engineering Safety (3) | CHE 4245 – Clinical Immersion (3) | CHE 4330 – Polymer Engineering (3) | CHE 4335 – Fuel Cells (3) | CHE 4340 – Introduction to Rheology (3) | CHE 4440 – Protein Engineering (3) | CHE 4550 – Green Engineering (3) | CHE 4650 – Agile Manufacturing (3) | CHE 4661 – Transport in Biochemical and Biological Processes (3) | CHE 4973 – Special Topics (3) | CHE 4990 – Undergraduate Research (Credit 1 to 3 per semester.)

Degree Map

CATALOG YEAR: 2026-2027

Degree: BSChE

MAJOR: Chemical Engineering
CONCENTRATION: Energy and the Environment (ENEV)

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 16		Total Credit Hours: 16	
CHE 1015 Intro to Chemical Engineering	2	CHE 1025 CHE Prof., Ethics, & Skills	2
MATH 1910 Calculus I	4	MATH 1920 Calculus II	4
CHEM 1110 General Chemistry I	4	ESS 1100 Intro to Environmental Studies	3
ENGL 1010 Writing Composition I	3	CHEM 1120 General Chemistry II	4
Social/Behavioral Science Elective	3	ENGL 1020 Writing Composition II	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 14		Total Credit Hours: 17	
CHE 2050 Material & Energy Balances	4	FIN 2000 – Personal Finance	3
CHE 3745 Innovation in Energy	3	CHE 3735 ChE Operations	2
MATH 2110 Calculus III	4	MATH 2120 Differential Equations	3
PHYS 2109 Cal based Physics I	3	PHYS 2119 Cal based Physics II	3
		COMM 2025 or PC 2500 Communication	3
		ENGL 2130, 2235, or 2330 Lit.	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR¹			
Semester: Fall		Semester: Spring	
Total Credit Hours: 17		Total Credit Hours: 18	
CHE 3010 Thermo of ChE Processes	3	CHE 3510 Sep and Sol Thermo	3
CHE 3050 TS1: Cond, Radiation, Diff	3	CHE 3511 Sep and Sol Thermo Lab	1
CHE 3051 TS1: Cond, Radiation, Diff Lab	1	CHE 3550 TS2: Fluid Mechanics	3
CHEM 3010 Organic Chemistry I	4	CHE 3551 TS2: Fluid Mechanics Lab	1
CHE 4550 Green Engineering	3	CHEM 3020 Organic Chemistry II	4
Humanities/Fine Arts Elective	3	CHE 4335 Fuel Cells	3
		Social/Behavioral Science Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall		Semester: Spring	
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CHE 4050 TS3: Diff and Mass Transfer	3	CHE 4255 ChE Capstone Lab	3
CHE 4051 TS3: Diff and Mass Transfer Lab	1	CHE 4420 Process Design II	3
CHE 4060 ChE Reaction Engineering	3	CHE 4540 Process Dynamics and Control	3
CHE 4061 ChE Reaction Engineering Lab	1	4xxx ENEV Elective ²	3
CHE 4410 Process Design I	3	4xxx ENEV Elective ²	3
CHEM 3510 Physical Chemistry I	4		

Notes: (Chemical Engineering (CHE) courses are generally only offered in the semester listed above)

- Students must apply to the ChE BS/MS Fast-Track program by the end of their second junior term.
- Six hours of CHE ENEV Elective must be from the following courses:
CHE 3340 – Industry 4.0 | CEE 3413: Environmental Engineering (3) | CHE 4552: Energy/Environment Special Topics (3) | CHE 4340: Rheology (3) | CHE 4560: Agile Manufacturing (3) | CHE 4990: Intro to Research (3) | CHEM 4310: Nuclear Chemistry and Radiochemistry (3) | CHE 4400 - Engineering Safety (3) | CHEM 4710: Environmental Chemistry (3) | CHEM 4720: Advanced Environmental Chemistry (3) | ESS 3710: Chemistry and the Environment (3) | ME 4260: Energy Conservation (3) | MET 4650: Lean Six Sigma (3)

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

13a. CHEMISTRY: 1 New Course

I. Course Additions

CHEM 1410: Forensic Science, Lec. 3, Lab 3, Credit 4

Prerequisite: None. Forensic Science applies scientific principles to legal investigations, helping solve crimes by analyzing evidence. This course aims to allow you to be able to understand the chemicals that surround us in our everyday lives, the science behind collecting evidence and analyzing crime scenes, and to prepare you to become scientifically literate members of society and juries. This class teaches ways that chemistry can be used to classify and quantify matter, and how the legal system uses classification and quantification to provide evidence in criminal and civil cases.

Justification: Forensic science and crime scene investigation are highly popular in current culture and the concept of forensic science directly connects to the lives of students. This topic may be of relevance to specific majors on campus including sociology and political science. This course allows the use of case studies to draw forensic science topics into the chemistry behind the processes, which bring real world examples into the classroom. The lab covers topics such as fingerprinting, separations, metals analysis, presumptive testing, and other areas of relevance to the field of forensic science.

Financial Impact: There will be an initial financial investment to purchase some equipment for laboratory exercises but the department has the financial resources to cover this. After the initial cost of starting the class, there will be the usual cost of purchasing consumables which will be consistent with the other lab-based courses offered in the department. There is no cost for faculty pay as this course will be taught within the normal load of existing faculty in the department.

Effective Date: Fall 2026

Tennessee Tech University CHEM 1410-001: Forensic Science

TBD, TBD, LSC TBA, 4 Credit Hours, Spring 2027

Instructor Information

Instructor's Name: Jonathan Moldenhauer, PhD.

Office: LSC 3117

Office Hours: TBD, drop-ins welcome when the office light is on.

Telephone Number: 931-372-6866

Campus Email: jmoldenhauer@tntech.edu

Course Information

Prerequisites: None

Texts and Resources

Johll, Matthew E., *Investigating Chemistry*, 4e, Macmillan Learning, 2019 (optional physical copy, digital copy comes with Macmillan Achieve).

Macmillan Achieve Homework System (required access code, assignments will be linked through iLearn).

Course Welcome and Description

Who wants to solve a crime? Perhaps you were inspired by shows like *CSI*, *Bones*, the original *NCIS*, or countless detective stories. Perhaps you want to understand how people are able to use science to solve crimes and find the bad guys. Although most of us may not plan to become detectives or crime scene analysts in real life, we should all be prepared to serve as a scientifically literate member of a jury and be able to understand the chemicals that surround us in our everyday lives. In this class, you will learn about the ways that chemistry can be used to classify and quantify matter, and how the legal system uses classification and quantification to provide evidence in criminal and civil cases.

Course Objectives/Student Learning Outcomes

1. Through lab experiences you will develop skills both in the measurement and handling of quantitative data, as well as understanding the limitations of scientific techniques by probing their boundaries with inquiry and hypothesis driven testing.
2. Be able to use the language of chemistry and science to explain how we can identify substances based on their physical and chemical properties, and how this relates to the

ability of investigators to uncover and analyze evidence from a crime scene and use this information to draw scientific conclusions.

3. Learn the language and notation associated with chemistry, as well as forensic science. Learn to communicate scientific ideas in oral and written formats and with scientific models and visual representations.
4. Understand how advances in forensic science have impacted human knowledge, thought, and behavior, and how these advances have impacted the criminal justice system.
5. Be able to discuss how defensible uncertainty is important with respect to the uncovered evidence and how it pertains to the jury instructions of reasonable doubt.
6. Allow you to be a more scientifically literate member of the society at large, especially if you were to ever be a member of jury, and understand the difference between pseudoscience and actual science when presented by an individual performing confidence and competence.

Major Teaching Methods

This is an on-ground course that has a lab component. The majority of the delivery is in-person lectures that will be recorded and posted on iLearn, as well as completed versions of the lecture slides. The homework will be assigned through the Macmillan Achieve system and is accessed through iLearn. Exams will be given at the testing center. The other component of the class is hands-on laboratory exercises to gain practical exposure to application of the content.

Special Instructional Platform/Materials

You will need the following materials for this class:

- A computer and access code for MacMillian Achieve
- Index cards for in-class participation questions
- A non-programmable, non-graphing scientific calculator
- Lab Goggles (the Student Members of the American Chemical Society will be selling these)

Topics to be Covered

In this course we will cover the science needed to understand physical evidence from a chemistry perspective. You will learn foundational chemistry knowledge through this course, but everything we cover will be from a perspective of forensic science and criminal or civil law. We will cover chemistry topics such as measurement, atomic structure, stoichiometry, molecular structure, kinetics, organic molecules, biomolecules, and intermolecular forces. Each chapter has a specific case study that can relate the chemistry topics of that chapter to a forensic topic.

Course Schedule

Table 1: Tentative Lecture Schedule by Week

Forensic Science CHEM 1410-001 Lecture Schedule				
Week	Lecture	Homework	Quizzes	Exams
1	Friday- Course Introduction			
2	Chapter 1: Introduction to Forensic Chemistry	Ch 1: HW Sun		
3	Chapter 2: Evidence Collection and Preservation	Ch 2: HW Sun		
4	Chapter 3: Atomic Clues	Ch 3: HW Sun	Quiz 1	
5	Chapter 4: Chemical Evidence	Ch 4: HW Sun		
6	Chapter 5: Properties of Solutions 1	Ch 5 HW Sun	Quiz 2	
7	Chapter 6: Properties of Solutions 2	Ch 6 HW Sun		Exam 1
8	Chapter 7: Drug Chemistry	Ch 7 HW Sun	Quiz 3	
9	Chapter 8: Chemistry of Addiction	Ch 8 HW Sun		
10	*Spring Break No Class*			
11	Chapter 9: Arson Investigation	CH 9 HW Sun	Quiz 4	
12	Chapter 10: Chemistry of Explosions	CH 10 HW Sun		Exam 2
13	Chapter 11: Estimating the Time of Death	CH 11 HW Sun	Quiz 5	
14	Chapter 12: Dirty Bombs and Nuclear Terrorism	CH 12 HW Sun		
15	Chapter 13: Poisons	CH 13 HW Sun	Quiz 6	Exam 3
16	Chapter 14: Identification of Victims: DNA Analysis	CH 14 HW Sun		

Table 2: Tentative Lab Schedule by Week

Forensic Science CHEM 1410-101 Lab Schedule	
Week	Lab
1	No Lab
2	Check-In and Safety
3	Evidence Collection Activity
4	Fingerprinting
5	Thin Layer Chromatography (Ink)
6	Flame Test of Metals
7	No Lab (Exam)
8	Salicylates in Blood
9	How Do Presumptive Tests Work?
10	*Spring Break No Class*
11	NIK Kits Presumptive Testing
12	No Lab (Exam)
13	Will Coffee Confuse a Marijuana Test?
14	DNA Extraction
15	No Lab
16	Check Out

Grading and Evaluation Procedures

Participation

Participation will be graded based on in-lecture activities usually at the end of class; however, they may be interspersed throughout class. These could be going through an example on your own or possibly being asked to draw connections about a case study. These will be turned in on index cards at the end of each lecture period.

Homework

The homework will be completed through MacMillian Achieve, and linked through the course iLearn site. It will be single sign-on if you access it through the link on iLearn, and your grades on the homework will be populated into iLearn. The chapter homework will always be due on Sunday at 11:59 PM. You will have four attempts on each homework question before you have to contact me to unlock more.

Quizzes

Quizzes will be given every two chapters over the material, and they will be given the following week after we complete the second chapter in a group. Quizzes will be no more than 15 multiple choice questions on iLearn. They will be open for an entire week, from 12:01 AM Monday to 11:59 PM Sunday, and you will have 45 minutes to do a quiz.

Exams and Final Exam

All exams will have a full week window for you to take them in the testing center. You will be given an hour and a half to take the exam. It will be 25 multiple choice questions. Each exam in the regular semester will cover four chapters. There will be three exams over the regular semester and a final. The final exam will occur during the final exam time allotted by the university for the time at which the class is taught. The final exam will take place in our regular classroom.

Laboratory Assignments

The lab will have two assignments due each week: a pre-lab quiz on which you must score a 70 or above in order to take part in that week's lab; and a post-lab that includes the data work up for the lab that was done that week. There are no labs on weeks when you have an exam, so you can use that time for taking the exam at the testing center.

Final Grade Breakdown

Lecture: 70%

Participation: 15%

Homework: 10%

Quizzes: 10%

Exams: 25%

Final Exam: 10%

Lab: 30%

Pre-Lab Quizzes: 10%

Post-Lab Assignments: 20%

Total: 100%

Grading Scale

Table 3: Overview of grade range

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and the key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding violations of academic integrity. All students are required to read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Attendance Policy

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are allowed to be used for specific assignments or within set parameters, as designated by the instructor. To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references. Proper citation guidelines can be found on the [CITL website](#). In this course the primary way you should interact with AI is through the homework software AI Teaching Assistant that the company trained themselves, which can help you work through the homework and get questions answered as an additional supplement to seeking assistance from the instructor. You will not have access to this AI Teaching Assistant on exams, and you shouldn't be using it when you are taking the quiz. AI is traditionally really bad at math.

Disability Accommodation

Students with a disability requiring accommodations should contact the Accessible Education Center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

Tutoring

The university provides free tutoring to all Tennessee Tech students through the Learning Center within the Volpe Library. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Counseling and Health Services

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Emergency Preparedness Protocols

Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#).

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

13b. CHEMISTRY: 1 Program Elevation - Biochemistry

I. Curriculum Changes

The Chemistry Department is seeking to elevate its existing Biochemistry concentration into a full major. The BS Biochemistry degree would have the same requirements as the current BS Chemistry, Biochemistry concentration.

Justification:

Biochemistry is the most popular concentration within the BS Chemistry at Tennessee Tech University. Elevating the concentration to a major would increase visibility of the major and align with the university's strategic goals. This would also position TTU as one of only three chemistry programs in the state with a separate BS in biochemistry.

Financial Impact:

None

All courses included in the programs are already being offered and have the faculty to teach them within load. We do not anticipate a large enough demand for courses offered by other departments due to the large variety of options offered within each concentrations' requirements.

Effective Date

Fall 2026

Catalog Year: 2026-2027

Major: Biochemistry

Concentration: none

Course	Cr. Hrs.	Course	Cr. Hrs.		
FIRST YEAR					
Semester: Fall	Total Credit Hours:	16	Semester: Spring	Total Credit Hours:	14
CHEM 1110 General Chemistry I	4	CHEM 1120 General Chemistry II	4		
CHEM 1500 First Year Interactions and Advisement	1	Composition GE Credit	3		
MATH 1910 Calculus I	4	BIOL 1123 General Biology II	4		
Composition GE Credit	3	Social & Behavioral Science GE Credit	3		
BIOL 1113 General Biology I	4				

Course	Cr. Hrs.	Course	Cr. Hrs.		
SOPHOMORE YEAR					
Semester: Fall	Total Credit Hours:	15	Semester: Spring	Total Credit Hours:	14
CHEM 3410 Quantitative Analysis	4	CHEM 3420 Analytical Applications	3		
PHYS 2010/2110 Physics I	4	PHYS 2020/2120 Physics II	4		
BIOL 3230 Health Science Microbiology	4	BIOL 3140 Cellular Biology	4		
Humanities & Cultural Expression GE Credit	3	Humanities & Cultural Expression GE Credit	3		

Course	Cr. Hrs.	Course	Cr. Hrs.		
JUNIOR YEAR					
Semester: Fall	Total Credit Hours:	14	Semester: Spring	Total Credit Hours:	16
CHEM 3010 Organic Chemistry I	4	CHEM 3020 Organic Chemistry II	4		
Historical Foundations GE Credit	3	CHEM 3500 Elements of Physical Chemistry	3		
Oral Communication GE Credit	3	Historical Foundations GE Credit	3		
BIOL 3810 General Genetics	4	Digital & Financial Literacy GE Credit	3		
		Social & Behavioral Science GE Credit	3		

Course	Cr. Hrs.	Course	Cr. Hrs.		
SENIOR YEAR					
Semester: Fall	Total Credit Hours:	16	Semester: Spring	Total Credit Hours:	15
CHEM 4610 General Biochemistry I	3	CHEM 4620 General Biochemistry II	3		
CHEM 4920 Chemistry Seminar	3	CHEM 4650 General Biochemistry Lab	2		
MATH 3070 Statistical Methods	3	BIOL 4150 Molecular Genetics	3		
Elective	7	BIOL 4040/4060	3		
		Electives	4		

Tennessee Tech Internal Cover Form

Required for all proposals

Please refer to the TTU Office of the Provost website for New Programs and Program Modifications before developing a proposal. <https://www.tntech.edu/provost/new-programs>

Degree Designation or Type of Certificate: Bachelor

BS in Biochemistry
Formal Degree Abbreviation Title of Proposed Program to be Established or Impacted

Concentrations: N/A

Action Requested:

We are requesting the elevation of the biochemistry concentration within the Chemistry BS to a full BS degree.

Proposed Effective Date: Fall 2026

For more information contact: Dr. Chad Rezsnyak / 931-372-6282
Name Telephone

Committee Approvals:

University Curriculum Committee (undergraduate programs) Approval Date: _____

Graduate School Executive Committee (graduate programs) Approval Date: _____

Admissions and Credits Committee (if applicable) Approval Date: _____

Academic Council (if applicable) Approval Date: _____

Approval: _____ / _____
Signature of Provost *Date*

Tennessee Tech Board of Trustees (if applicable) Approval Date: _____



Academic Program Modifications (APM) Checklist

Policy A1.1 Academic Program Modifications

Per Tennessee Higher Education Commission (THEC) [Academic Policy A1.1 - Academic Program Modifications](#) (APM), APMs are approved by the THEC Executive Director after review by THEC staff and apply to modifications of active programs on the THEC Academic Program Inventory (API). If an APM is deemed by the Executive Director to be more appropriately evaluated via Academic Policy A1.0 - New Academic Programs: Approval Process the campus will be notified.

Academic Program Modification requests are limited to the following changes:

- Adding an academic program degree designation to an existing program (e.g., adding a B.A. to an Existing B.S.).
- Changing an academic program degree designation (e.g., B.A. to B.F.A; M.A. to M.F.A.; Ed.D. to Ph.D).
- Changing the six-digit Classification of Instructional Program (CIP) code for an approved academic program.
- Establishing a free-standing academic program from an existing concentration that has demonstrated steady enrollment and graduation numbers for a period of at least three (3) years.
- Consolidating two (2) or more existing academic programs into a single academic program.
- Creating a joint degree program consisting of academic programs that are already approved at each participating institution.

In order to submit an APM request, all parts of the appropriate checklist (as delineated below) must be submitted through [Formstack](#). Completed requests will be reviewed on a rolling basis.

Academic Program Modification Checklist

The following items must be included in all APM submissions, regardless of type. Please note, incomplete APM submissions will be returned without evaluation.

Cover letter from the Chief Academic Officer

- Provide a cover letter from the Chief Academic Officer verifying the proposed academic program modification has gone through all necessary institutional approval channels.

A signed letter from the Chief Academic Officer at Tennessee Technological University, Provost Dr. John Liu, is attached,

Academic program modification liaison name and contact information

- The academic program modification liaison will serve as the information resource for the proposed academic program at the institution.

Dr. Chad Rezsnyak
Chair, Department of Chemistry
(931) 372-6282
crezsnyak@tntech.edu

Current program information

- Provide the current academic program name, concentration(s), degree designation, and federal CIP code. *Please note:* This information must be aligned with the current [THEC Academic Program Inventory](#).

Current academic program name: BS in Chemistry
Concentration(s): Biochemistry
Degree designation: Bachelor of Science
Federal CIP code: 40.0501

Proposed program information

- Provide the proposed academic program name, concentration(s), degree designation, and federal CIP code.

Proposed academic program name: BS in Biochemistry
Concentration(s): none
Degree designation: Bachelor of Science
Federal CIP code: 26.0202

Background for proposed APM

- Provide information regarding the circumstances that initiated the proposed academic program modification.

The Department of Chemistry at Tennessee Technological University currently offers a BS in Chemistry with multiple concentrations, with the Biochemistry concentration having the highest enrollment. As an innately interdisciplinary area, biochemistry is an enticing area for prospective students and generates career-ready graduates. Biochemistry graduates contribute to a variety of industries, including chemical/pharmaceutical manufacturing and research investigating issues related to human health. The US Bureau of Labor Statistics estimates that biochemists will continue to increase in demand and grow approximately 6% over the next 10 years. Elevating the Biochemistry concentration to a full degree will increase the visibility of the program, which should drive enrollment to help meet the demands of an aging US population.

Proposed implementation date: Fall 2026

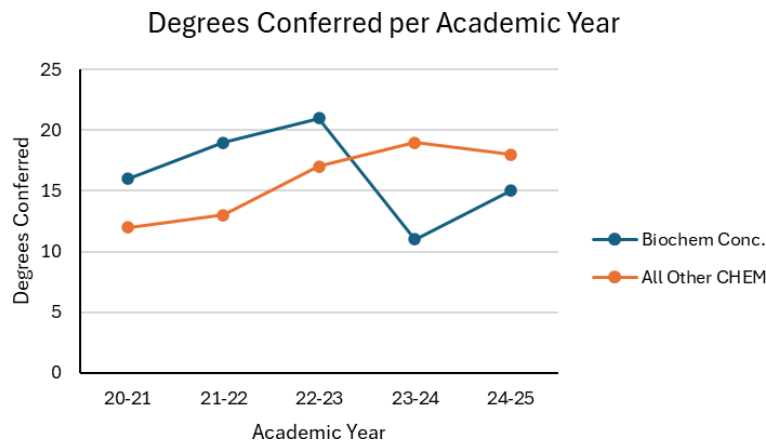
Anticipated delivery site: Tennessee Technological University, Cookeville, TN

Delivery mode: On-ground

Potential impact on existing programs

- Detail how the proposed academic program modification will impact existing majors, concentrations, and similar programs at the institution.

Both the proposed biochemistry major and remaining chemistry major have sufficient enrollment to remain healthy (>10 completions per year over an average of five years) without the biochemistry concentration.



Existing programs offered at public and private Tennessee institutions

- List all academic programs with the same or similar CIP code offered at public and private higher education institutions in Tennessee.

University	Private/Public	Degree	CIP
Middle Tennessee State University	Public	BS	26.0202
University of Tennessee - Knoxville	Public	MS/PhD	26.0202
Tennessee State University	Public	C4	26.0202
Carson-Newman University	Private	BS	26.0202
Christian Brothers University	Private	BS	26.0202
Cumberland University	Private	BS	26.0202
Lipscomb University	Private	BA/BS	26.0202
Freed-Hardeman University	Private	BS (Chem), emphasis biochem	26.0202
King University	Private	BS	26.0202
Lee University	Private	BS	26.0202
Maryville College	Private	BA	26.0202
The University of the South	Private	BS	26.0202
Southern Adventist University	Private	BS	26.0202
Union University	Private	BS	26.0202
Vanderbilt University	Private	BA/BS	26.0202

Curriculum comparison

- Provide a comparison of the current curriculum and the proposed curriculum for the entire program.

Catalog Year: 2026-2027				Major: Chemistry			
				Concentration: Biochemistry			
Course		Cr. Hrs.		Course		Cr. Hrs.	
FIRST YEAR							
Semester: Fall		Total Credit Hours:		Semester: Spring		Total Credit Hours:	
		16				14	
CHEM 1110 General Chemistry I		4		CHEM 1120 General Chemistry II		4	
CHEM 1500 First Year Interactions and Advisement		1		Composition GE Credit		3	
MATH 1910 Calculus I		4		BIOL 1123 General Biology II		4	
Composition GE Credit		3		Social & Behavioral Science GE Credit		3	
BIOL 1113 General Biology I		4					
Course		Cr. Hrs.		Course		Cr. Hrs.	
SOPHOMORE YEAR							
Semester: Fall		Total Credit Hours:		Semester: Spring		Total Credit Hours:	
		15				14	
CHEM 3410 Quantitative Analysis		4		CHEM 3420 Analytical Applications		3	
PHYS 2010/2110 Physics I		4		PHYS 2020/2120 Physics II		4	
BIOL 3230 Health Science Microbiology		4		BIOL 3140 Cellular Biology		4	
Humanities & Cultural Expression GE Credit		3		Humanities & Cultural Expression GE Credit		3	
Course		Cr. Hrs.		Course		Cr. Hrs.	
JUNIOR YEAR							
Semester: Fall		Total Credit Hours:		Semester: Spring		Total Credit Hours:	
		14				16	
CHEM 3010 Organic Chemistry I		4		CHEM 3020 Organic Chemistry II		4	
Historical Foundations GE Credit		3		CHEM 3500 Elements of Physical Chemistry		3	
Oral Communication GE Credit		3		Historical Foundations GE Credit		3	
BIOL 3810 General Genetics		4		Digital & Financial Literacy GE Credit		3	
				Social & Behavioral Science GE Credit		3	
Course		Cr. Hrs.		Course		Cr. Hrs.	
SENIOR YEAR							
Semester: Fall		Total Credit Hours:		Semester: Spring		Total Credit Hours:	
		16				15	
CHEM 4610 General Biochemistry I		3		CHEM 4620 General Biochemistry II		3	
CHEM 4920 Chemistry Seminar		3		CHEM 4650 General Biochemistry Lab		2	
MATH 3070 Statistical Methods		3		BIOL 4150 Molecular Genetics		3	
Elective		7		BIOL 4040/4060		3	
				Electives		4	

Catalog Year: 2026-2027				Major: Biochemistry			
				Concentration: None			
Course		Cr. Hrs.		Course		Cr. Hrs.	
FIRST YEAR							
Semester: Fall		Total Credit Hours:		Semester: Spring		Total Credit Hours:	
		16				14	
CHEM 1110 General Chemistry I		4		CHEM 1120 General Chemistry II		4	
CHEM 1500 First Year Interactions and Advisement		1		Composition GE Credit		3	
MATH 1910 Calculus I		4		BIOL 1123 General Biology II		4	
Composition GE Credit		3		Social & Behavioral Science GE Credit		3	
BIOL 1113 General Biology I		4					
Course		Cr. Hrs.		Course		Cr. Hrs.	
SOPHOMORE YEAR							
Semester: Fall		Total Credit Hours:		Semester: Spring		Total Credit Hours:	
		15				14	
CHEM 3410 Quantitative Analysis		4		CHEM 3420 Analytical Applications		3	
PHYS 2010/2110 Physics I		4		PHYS 2020/2120 Physics II		4	
BIOL 3230 Health Science Microbiology		4		BIOL 3140 Cellular Biology		4	
Humanities & Cultural Expression GE Credit		3		Humanities & Cultural Expression GE Credit		3	
Course		Cr. Hrs.		Course		Cr. Hrs.	
JUNIOR YEAR							
Semester: Fall		Total Credit Hours:		Semester: Spring		Total Credit Hours:	
		14				16	
CHEM 3010 Organic Chemistry I		4		CHEM 3020 Organic Chemistry II		4	
Historical Foundations GE Credit		3		CHEM 3500 Elements of Physical Chemistry		3	
Oral Communication GE Credit		3		Historical Foundations GE Credit		3	
BIOL 3810 General Genetics		4		Digital & Financial Literacy GE Credit		3	
				Social & Behavioral Science GE Credit		3	
Course		Cr. Hrs.		Course		Cr. Hrs.	
SENIOR YEAR							
Semester: Fall		Total Credit Hours:		Semester: Spring		Total Credit Hours:	
		16				15	
CHEM 4610 General Biochemistry I		3		CHEM 4620 General Biochemistry II		3	
CHEM 4920 Chemistry Seminar		3		CHEM 4650 General Biochemistry Lab		2	
MATH 3070 Statistical Methods		3		BIOL 4150 Molecular Genetics		3	
Elective		7		BIOL 4040/4060		3	
				Electives		4	

New courses

None

Accreditation

- Identify any accreditation implications associated with the proposed change.

The department is currently accredited through the American Chemical Society (ACS). The ACS already accredits departments with Biochemistry BS degrees (such as MTSU). Correspondence with the ACS in advance of this application has confirmed this will not affect accreditation. Periodic review of the BS Chemistry and BS Biochemistry degrees will occur simultaneously through the established protocol for departmental accreditation.

THEC Financial Projections Form and associated budget narrative - do not include if there are not anticipated new costs or revenues.

There are no anticipated additional costs.

Additional requirements by type of Academic Program Modification

In addition to the common APM components specified above, the specific type of modification requested will require additional information as outlined below. Please note, the Formstack form will update automatically to include only the sections required for each type of APM.

Establishing a free-standing academic program.

This program modification may be considered only if the current concentration has demonstrated steady enrollment and graduation numbers for a period of at least three (3) years; the establishment of the concentration as a free-standing academic program does not compromise the remaining academic program(s); and the request requires limited new resources.

- Provide justification for the establishment of a free-standing program from an existing concentration.

The biochemistry concentration has consistently had the highest enrollment of all concentrations offered in the Chemistry BS. Elevating the concentration to a standalone major should enhance visibility and increase enrollment, while not endangering the Chemistry BS.

- List termination dates for each existing concentration that will be established as a free-standing academic program.

Summer 2029

- Provide teach-out plans for students currently enrolled in any concentration that is to be terminated.

All of the classes currently required will continue to be offered through the lifetime of the concentration.

- Provide enrollment and degrees awarded for the current academic program and each concentration for the past three years.

Degrees Conferred			
Concentration	AY 24-25	AY 23-24	AY 22-23
Biochem Conc.	15	11	21
All Other Chem	18	19	17

Headcount			
Concentration	F25	F24	F23
Biochem Conc.	51	47	46
All Other Chem	79	78	82

- Provide student learning outcomes for the proposed academic program modification. Outcomes should clearly state the specific and measurable outcomes students will display to verify learning has occurred and include information regarding how each student learning

outcome will be assessed.

By completing this program, students will be able to:

1. Demonstrate understanding of the theory and application of the field of biochemistry.
 - a. Assessed by tracking student outcomes in the final exams for Biochemistry I & II (CHEM 4610 and CHEM 4620).
 2. Understand, apply, and execute modern chemical analysis techniques related to the field of biochemistry.
 - a. Assessed by tracking student outcomes Biochemistry lab course (CHEM 4650).
 3. Communicate scientific information effectively and efficiently with respect to modern standards.
 - a. Assessed by tracking student outcomes in Chemistry Seminar (CHEM 4920).
- Provide an overview of how existing faculty and staff will support the proposed academic program modification.

Since there are no additional courses being proposed to accompany the new program, existing faculty will support the new major as they had with the original concentration.

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

14a. Computer Science: 4 Curriculum Changes

Curriculum Changes: Changing CSC 4615 (2 credit) to CSC 4620 (3 credit)

Justification: We are proposing to remove the CSC 4615 from CS curriculum (core and concentrations), and replace it with CSC 4620 (3 credit) course due to the time invested by students in the course. In addition, some restructuring of the courses was needed to streamline the curriculum. See attached updated degree maps.

Financial Impact: None.

Effective Date: Fall 2026



Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Computer Science
Concentration: High Performance Computing

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 16	
CSC 1020 Connections to Computing ¹	1	CSC 1310 Data Structures & Algorithms	4
CSC 1300 Intro to Programming	4	Humanities/Fine Arts Elective	3
MATH 1910 Calculus I	4	MATH 2010 Intro to Linear Algebra	3
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3
HIST 2010 Early US History	3	HIST 2020 Modern US History	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 16	
CSC 2310 Object Oriented Programming	4	CSC 2400 Design of Algorithms	3
CSC 2510 Intro to DevOps with Unix	3	CSC 2700 Discrete Structure for CompSci	3
Social/Behavioral Science Elective	3	CSC 2770 Intro to Systems & Networking	3
Science Sequence ³	4	Science Sequence ²	4
COMM 2025 or PC 2500-Communication	3	Financial OR Digital Literacy Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 15	
CSC 3300 Database Management Sys	3	CSC 3040 Prfess, Comm, and Research	3
CSC 3410 Comp Org and Assembly	3	CSC 3710 Found of Comp Science	3
CSC Elective ³	3	CSC 4200 Computer Networks	3
MATH 3070 or MATH 3470	3	CSC 4760 Parallel Programming SPRING	3
CSC Elective ³	3	Humanities/Fine Arts Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 14		Semester: Spring Total Credit Hours: 12	
CSC 4100 Operating Systems	3	CSC 4620 Software Engineering II	3
CSC 4320 Computer Architecture	3	CSC 4780 Adv. Net. & Sec. SPRING even years	3
CSC 4610 Software Engineering I	3	CSC HPC Elective ⁴ SPRING	3
CSC 4770 Dist. & Cloud Computing FALL	3	Social/Behavioral Science Elective	3
Elective	2		

Note:

- Not required for transfer students with more than 12 hours; transfer students take 1 credit hour free elective
- Science Sequence: One science sequence
 - BIOL 1113 and BIOL 1123 OR BIOL 1113 and BIOL 2310 or
 - CHEM 1110 and CHEM 1120 or
 - GEOL 1040 and GEOL 1045 or
 - PHYS 2010 and PHYS 2020 OR PHYS 2110 and PHYS 2120
- CSC Elective: Any additional 2000 or above level CSC course
- CSC HPC Electives: Any one of the following CSC courses: CSC 4040, CSC 4220, CSC 4400, CSC 4575, CSC 4710



Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Computer Science

Concentration: Cyber Security

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 16	
CSC 1020 Connections to Computing ¹	1	CSC 1310 Data Structures & Algorithms	4
CSC 1300 Intro to Programming	4	Humanities/Fine Arts Elective	3
MATH 1910 Calculus I	4	MATH 2010 Intro to Linear Algebra	3
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3
HIST 2010 Early US History	3	HIST 2020 Modern US History	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 16	
CSC 2310 Object Oriented Programming	4	CSC 2570 Intro to Cyber and Privacy	3
CSC 2400 Design of Algorithms	3	CSC 2770 Intro to Systems & Networking	3
CSC 2510 Intro to DevOps with Unix	3	CSC 3710 Found of Comp Science	3
CSC 2700 Discrete Structure for Comp Sci	3	Science Sequence ²	4
COMM 2025 or PC 2500-Communication	3	Financial OR Digital Literacy Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 14	
CSC 3300 Database Management Sys	3	CSC 3040 Profess, Comm, and Research	3
CSC 3410 Comp Org and Assembly	3	CSC 4320 Comp Architecture	3
CSC 3570 IT Security FALL	3	CSC 4575 Cryptography & Network Sec SPRING	3
Social/Behavioral Science Elective	3	Elective	2
CSC Elective ³	3	Humanities/Fine Arts Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 13	
CSC 4200 Comp Networks	3	CSC 4100 Operating Systems	3
CSC 4585 Software and Systems Security FALL	3	CSC 4620 Software Engineering II	3
CSC 4610 Software Engineering I	3	CSC Elective ³	3
MATH 3070 or MATH 3470	3	Science Sequence ²	4
Social/Behavioral Science Elective	3		

Notes:

- Not required for transfer students with more than 12 hours; transfer students take 1 credit hour free elective
- Science Sequence: One science sequence
 - BIOL 1113 and BIOL 1123 OR BIOL 1113 and BIOL 2310 OR
 - CHEM 1110 and CHEM 1120 OR
 - GEOL 1040 and GEOL 1045 OR
 - PHYS 2010 and PHYS 2020 OR PHYS 2110 and PHYS 2120
- CSC Elective: Any additional 2000 or above level CSC course



Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Computer Science

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 16	
CSC 1020 Connections to Computing ¹	1	CSC 1310 Data Structures & Algorithms	4
CSC 1300 Intro to Programming	4	Humanities/Fine Arts Elective	3
MATH 1910 Calculus I	4	MATH 2010 Intro to Linear Algebra	3
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3
HIST 2010 Early US History	3	HIST 2020 Modern US History	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 16	
CSC 2310 Object Oriented Programming	4	CSC 2400 Design of Algorithms	3
CSC 2510 Intro to DevOps with Unix	3	CSC 2700 Discrete Structure for CompSci	3
Social/Behavioral Science Elective	3	CSC Lower Division Elective ⁴	3
COMM 2025/PC 2500 Communications	3	Financial OR Digital Literacy Elective	3
Science Sequence ²	4	Science Sequence ²	4
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 15	
CSC 3300 Database Management Sys	3	CSC 3040 Prfess, Comm, and Research	3
CSC 3410 Comp Org and Assembly	3	CSC 4320 Comp Architecture	3
CSC 3710 Found of Comp Science	3	CSC Upper Division Elective ³	3
MATH 3070 or MATH 3470	3	CSC Lower Division Elective ⁴	3
CSC Elective ⁵	3	Humanities/Fine Arts Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 12		Semester: Spring Total Credit Hours: 14	
CSC 4100 Operating Systems	3	CSC 4200 Comp Networks	3
CSC 4610 Software Engineering I	3	CSC 4620 Software Engineering II	3
CSC Upper Division Elective ³	3	Elective	5
Social/Behavioral Science Elective	3	CSC Upper-Division Elective ³	3

Notes:

- Not required for transfer students with more than 12 hours; transfer students take 1 credit hour free elective
- Science: Take one science sequence
 - BIOL 1113 and BIOL 1123 OR BIOL 1113 and BIOL 2310 OR
 - CHEM 1110 and CHEM 1120 OR
 - GEOL 1040 and GEOL 1045 OR
 - PHYS 2010 and PHYS 2020 OR PHYS 2110 and PHYS 2120
- CSC Upper-Division Electives: Any additional 3000 or 4000 level CSC course
- CSC Lower-Division Electives: Two of the three gateway courses (CSC 2220, CSC 2570, CSC 2770)
- CSC Elective: Any additional 2000 or above level CSC course

Proposed degree map with additions in in red.



College of Engineering
TENNESSEE TECH

Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Artificial Intelligence

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 16	
CSC 1020 Connections to Computing ¹	1	CSC 1310 Data Structures & Algorithms	4
CSC 1300 Intro to Programming	4	MATH 2010 Intro to Linear Algebra	3
MATH 1910 Calculus I	4	ENGL 1020 Writing Composition II	3
ENGL 1010 Writing Composition I	3	HIST 2020 Modern US History	3
HIST 2010 Early US History	3	Social/Behavioral Science Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 16	
CSC 2310 Object Oriented Programming	4	CSC 2220 Intro to DS and AI	3
CSC 2510 Intro to DevOps with Unix	3	CSC 2400 Design of Algorithms	3
CSC 2700 Discrete Structure for CompSci	3	Natural Science ²	4
Humanities/Fine Arts Elective	3	MATH 3070 or MATH 3470	3
COMM 2025/PC 2500 Communications	3	Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 16	
AI 3000 Intro to Art. Intelligence & Mach. Learn.	3	AI 3100 Human-centered AI	3
CSC 3040 Prfess, Comm, and Research	3	AI 3200 Machine Learning	3
CSC 3220 Fundamentals of Data Science	3	CSC 4760 Parallel Programming	3
CSC 3300 Database Management Sys	3	Natural Science ²	4
Elective	3	Humanities/Fine Arts Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 14		Semester: Spring Total Credit Hours: 12	
AI 4200 Deep Learning	3	CSC 4200 Comp Networks	3
CSC 4610 Software Engineering I	3	CSC 4620 Software Engineering II	3
Elective	2	CSC 4260 Advanced Data Science & Apps	3
Social/Behavioral Science Elective	3	Upper Division Elective	3
Elective³	3		

Notes:

1. Not required for transfer students with more than 12 hours; transfer students take 1 credit hour free elective
2. General Education Natural Science Options:
 - BIOL 1113 OR BIOL 1113, BIOL 1123 OR BIOL 2310
 - CHEM 1110, CHEM 1120
 - GEOL 1040, GEOL 1045
 - PHYS 2010 OR PHYS 2110, PHYS 2020 OR PHYS 2120
3. 2000-level or higher

14b. Computer Science:

Course Additions: None

Course Deletions: None

Course Changes: Changes in Degree Maps

This change is needed to reflect the two CS courses (CSC 2220 and CSC 2570) recently approved under Financial or Digital literacy general education requirement. These changes will streamline the student advising and ensure students make informed decisions in selecting the relevant general education courses. Attached is the suggested set of courses which students in CS major can take, satisfying degree requirements and be prepared to take advanced CS courses.

Financial Impact: None.

Effective Date: Fall 2026

Suggested General Education Courses for Students in CS major

Flight Foundations Category	Req. Cr	Courses	Act. Cr
Communication	9	ENGL 1010, ENGL 1020, COMM 2025/PC 2500	9
Quantitative Reasoning and Analysis	3	MATH 1910 (4)	3
Social and Behavioral Sciences	6	Social Behavioral (2 courses)	6
Historical Foundations	6	HIST 2010, HIST 2020	6
Humanities and Cultural Expression	6 or 9	Humanities/Fine Arts (2 courses)	6
Scientific Reasoning	4 or 8	Science (BIOL, CHEM, GEOL, PHYS) appropriate for majors of that discipline	8
Financial or Digital Literacy	3 or 4	CSC 2220 or CSC 2570	3



Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Computer Science

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 15		Total Credit Hours: 16	
CSC 1020 Connections to Computing ¹	1	CSC 1310 Data Structures & Algorithms	4
CSC 1300 Intro to Programming	4	Humanities/Fine Arts Elective	3
MATH 1910 Calculus I	4	MATH 2010 Intro to Linear Algebra	3
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3
HIST 2010 Early US History	3	HIST 2020 Modern US History	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 17		Total Credit Hours: 16	
CSC 2310 Object Oriented Programming	4	CSC 2400 Design of Algorithms	3
CSC 2510 Intro to DevOps with Unix	3	CSC 2700 Discrete Structure for CompSci	3
Social/Behavioral Science Elective	3	CSC Lower Division Elective ⁴	3
COMM 2025/PC 2500 Communications	3	CSC Lower Division Elective ⁴	3
Science Sequence ²	4	Science Sequence ²	4
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 15		Total Credit Hours: 15	
CSC 3300 Database Management Sys	3	CSC 3040 Prfess, Comm, and Research	3
CSC 3410 Comp Org and Assembly	3	CSC 4320 Comp Architecture	3
CSC 3710 Found of Comp Science	3	CSC Upper Division Elective ³	3
MATH 3070 or MATH 3470	3	CSC Elective ⁵	3
CSC Elective ⁵	3	Humanities/Fine Arts Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 12		Total Credit Hours: 14	
CSC 4100 Operating Systems	3	CSC 4200 Comp Networks	3
CSC 4610 Software Engineering I	3	CSC 4620 Software Engineering II	3
CSC Upper Division Elective ³	3	Elective	5
Social/Behavioral Science Elective	3	CSC Upper-Division Elective ³	3

Notes:

- Not required for transfer students with more than 12 hours; transfer students take 1 credit hour free elective
- Science: Take one science sequence
 - BIOL 1113 and BIOL 1123 OR BIOL 1113 and BIOL 2310 OR
 - CHEM 1110 and CHEM 1120 OR
 - GEOL 1040 and GEOL 1045 OR
 - PHYS 2010 and PHYS 2020 OR PHYS 2110 and PHYS 2120
- CSC Upper-Division Electives: Any additional 3000 or 4000 level CSC course
- CSC Lower-Division Electives: Two of the three gateway courses (CSC 2220, CSC 2570, CSC 2770). CSC 2220 and 2570 also satisfy Financial or Digital literacy general education requirement.
- CSC Elective: Any additional 2000 or above level CSC course



Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Computer Science

Concentration: High Performance Computing

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 16	
CSC 1020 Connections to Computing ¹	1	CSC 1310 Data Structures & Algorithms	4
CSC 1300 Intro to Programming	4	Humanities/Fine Arts Elective	3
MATH 1910 Calculus I	4	MATH 2010 Intro to Linear Algebra	3
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3
HIST 2010 Early US History	3	HIST 2020 Modern US History	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 16	
CSC 2310 Object Oriented Programming	4	CSC 2400 Design of Algorithms	3
CSC 2510 Intro to DevOps with Unix	3	CSC 2700 Discrete Structure for CompSci	3
Social/Behavioral Science Elective	3	CSC 2770 Intro to Systems & Networking	3
Science Sequence ³	4	Science Sequence ²	4
COMM 2025 or PC 2500-Communication	3	Financial or Digital Literacy ⁵	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 15	
CSC 3300 Database Management Sys	3	CSC 3040 Prfess, Comm, and Research	3
CSC 3410 Comp Org and Assembly	3	CSC 3710 Found of Comp Science	3
CSC Elective ³	3	CSC 4200 Computer Networks	3
MATH 3070 or MATH 3470	3	CSC 4760 Parallel Programming SPRING	3
CSC Elective ³	3	Humanities/Fine Arts Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 14		Semester: Spring Total Credit Hours: 12	
CSC 4100 Operating Systems	3	CSC 4620 Software Engineering II	3
CSC 4320 Computer Architecture	3	CSC 4780 Adv. Net. & Sec. SPRING even years	3
CSC 4610 Software Engineering I	3	CSC HPC Elective ⁴ SPRING	3
CSC 4770 Dist. & Cloud Computing FALL	3	Social/Behavioral Science Elective	3
Elective	2		

Note:

- Not required for transfer students with more than 12 hours; transfer students take 1 credit hour free elective
- Science Sequence: One science sequence
 - BIOL 1113 and BIOL 1123 OR BIOL 1113 and BIOL 2310 or
 - CHEM 1110 and CHEM 1120 or
 - GEOL 1040 and GEOL 1045 or
 - PHYS 2010 and PHYS 2020 OR PHYS 2110 and PHYS 2120
- CSC Elective: Any additional 2000 or above level CSC course
- CSC HPC Electives: Any one of the following CSC courses: CSC 4040, CSC 4220, CSC 4400, CSC 4575, CSC 4710
- Student may take any Financial or Digital Literacy course, including CSC 2220 or CSC 2570



Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

MAJOR: Computer Science

Concentration: Cyber Security

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 16	
CSC 1020 Connections to Computing ¹	1	CSC 1310 Data Structures & Algorithms	4
CSC 1300 Intro to Programming	4	Humanities/Fine Arts Elective	3
MATH 1910 Calculus I	4	MATH 2010 Intro to Linear Algebra	3
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3
HIST 2010 Early US History	3	HIST 2020 Modern US History	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 16	
CSC 2310 Object Oriented Programming	4	CSC 2570 ⁴ Intro to Cyber and Privacy	3
CSC 2400 Design of Algorithms	3	CSC 2770 Intro to Systems & Networking	3
CSC 2510 Intro to DevOps with Unix	3	CSC 3710 Found of Comp Science	3
CSC 2700 Discrete Structure for Comp Sci	3	Science Sequence ²	4
COMM 2025 or PC 2500-Communication	3	CSC Elective ³	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 14	
CSC 3300 Database Management Sys	3	CSC 3040 Profess, Comm, and Research	3
CSC 3410 Comp Org and Assembly	3	CSC 4320 Comp Architecture	3
CSC 3570 IT Security FALL	3	CSC 4575 Cryptography & Network Sec SPRING	3
Social/Behavioral Science Elective	3	Elective	2
CSC Elective ³	3	Humanities/Fine Arts Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 13	
CSC 4200 Comp Networks	3	CSC 4100 Operating Systems	3
CSC 4585 Software and Systems Security FALL	3	CSC 4620 Software Engineering II	3
CSC 4610 Software Engineering I	3	CSC Elective ³	3
MATH 3070 or MATH 3470	3	Science Sequence ²	4
Social/Behavioral Science Elective	3		

Notes:

- Not required for transfer students with more than 12 hours; transfer students take 1 credit hour free elective
- Science Sequence: One science sequence
 - BIOL 1113 and BIOL 1123 OR BIOL 1113 and BIOL 2310 OR
 - CHEM 1110 and CHEM 1120 OR
 - GEOL 1040 and GEOL 1045 OR
 - PHYS 2010 and PHYS 2020 OR PHYS 2110 and PHYS 2120
- CSC Elective: Any additional 2000 or above level CSC course
- This course also satisfies Financial or Digital literary general education requirement.

14c. COMPUTER SCIENCE: 1 New Course

With the advent of the new AI major, current CSC artificial intelligence courses will be migrated to the new AI prefix.

This memo is for the creation of AI 3000 with a new Course Title and Course Description that better reflect the current state of the course content that was in CSC 4240.

PROPOSED COURSE ADDITION:

AI 3000 – Introduction to Artificial Intelligence and Machine Learning Prerequisites:
CSC 2220 and a C or better in CSC 2400.

Credit Hours: 3

Description: This course provides an overview of the core ideas and techniques that enable computers to learn from data and make intelligent decisions. Students explore fundamental AI concepts, including search, reasoning, and problem solving, along with key machine learning approaches such as supervised and unsupervised learning, model evaluation, and basic neural networks. Through hands-on programming assignments and real-world examples, students gain practical experience building simple AI systems and understanding their societal and ethical implications.

IMPACT ON FACULTY: None.

EFFECTIVE DATE: Fall 2026

JUSTIFICATION: Artificial Intelligence courses that were taught as part of the Computer Science curriculum need to be migrated to the new AI Major.

TENNESSEE TECH UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE

AI 3000: INTRODUCTION TO ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

3 CREDIT HOURS, FALL 2026

INSTRUCTOR INFORMATION

Instructor: Amr Hilal

Email: ahilal@tntech.edu

Office: BRUN 233

COURSE INFORMATION

PREREQUISITES

CSC 2220 and CSC 2400 (C or better)

COURSE DESCRIPTION

This course provides an overview of the core ideas and techniques that enable computers to learn from data and make intelligent decisions. We will explore fundamental AI concepts including problem solving using search and reasoning. We will also cover key machine learning approaches such as supervised and unsupervised learning, model evaluation, and basic neural networks. Through hands-on programming assignments and real-world examples, you will gain practical experience building simple AI systems and understanding their societal and ethical implications. You are expected to have completed a course in Data Structures, and to be comfortable with algorithm design and programming.

COURSE OBJECTIVES

- ✓ To give students a broad knowledge base in the area of artificial intelligence.
- ✓ To teach students fundamental artificial intelligence algorithms and concepts.
- ✓ Differentiate major Machine Learning paradigms (supervised, unsupervised, and reinforcement learning).
- ✓ Critically evaluate AI systems in terms of performance, limitations, and ethical considerations.
- ✓ To give students improved problem-solving skills using modern AI tools.

STUDENT LEARNING OUTCOMES

A student completing this course should, at a minimum, be able to:

- ✓ Explain the differences between AI, machine learning, and data science.
- ✓ Discuss searching methods in AI.
- ✓ Discuss reasoning in AI.
- ✓ Compare supervised and unsupervised learning approaches and describe a number of machine learning techniques.
- ✓ Train and evaluate machine learning models using appropriate performance metrics.
- ✓ Use modern AI tools to solve a moderate level problem

MAJOR TEACHING METHODS

Lecture, discussion, quizzes, and assignments.

SPECIAL INSTRUCTIONAL PLATFORM/MATERIALS

The class syllabus, schedule, and other information will be available on the iLearn website as it is developed. You are responsible for checking the iLearn website regularly for information such as lecture notes and due date changes.

TOPICS TO BE COVERED:

1. Background
 - What is AI
 - Intelligent Agents
2. Problem Solving
 - Search
 - Games
3. Knowledge and Reasoning
 - Logical Reasoning
 - Reasoning Under Uncertainty
4. Modern AI: Machine Learning
 - Types of Machine Learning
 - Example supervised Learning Techniques
 - Example Unsupervised Learning Techniques
 - Neural Networks
 - Machine Learning Development Pipeline
 - Data Preparation
 - Training, Validation, and Testing
 - Evaluation, Diagnosis, and Tuning
5. Ethics of AI

TEXTS AND REFERENCES:

Required: Artificial Intelligence: A Modern Approach, by Russell and Norvig, fourth edition (2020).

Grading and Evaluation Procedures:

Item	% of Final Grade
Homeworks	25%
Quizzes	10%
Exams	45%
Project	20%

GRADING SCALE

Letter Grade	Grade Range
A	90-100
B	80-89.99
C	70-79.99
D	60-69.99
F	0- 59.00

COURSE POLICIES

STUDENT ACADEMIC MISCONDUCT POLICY

Maintaining high standards of academic integrity in every class at Tennessee Tech is critical to the reputation of Tennessee Tech, its students, alumni, and the employers of Tennessee Tech graduates. The Student Academic Misconduct Policy describes the definitions of academic misconduct and policies and procedures for addressing Academic Misconduct at Tennessee Tech. For details, view the Tennessee Tech's Policy 217 – [Student Academic Misconduct at Policy Central](#).

CLASS PARTICIPATION

The course is participatory with discussions on a variety of topics. As such, students are expected to attend and actively engage with the instructor and fellow students in the class.

ASSIGNMENTS AND RELATED POLICY

Students are required submit assignments based on their own work. Unless otherwise stated, assignments are to be worked individually. No online resources shall be used in homeworks unless permitted by the instructor. Material covered on the exams will be based on the assigned chapters, papers, and class lectures. All exams are mandatory. There are NO make-up exams after the scheduled times. If a student notifies the instructor IN ADVANCE, then an early make-up exam may be arranged at the discretion of the instructor. The instructor's decision is final. All exams may be kept by the instructor.

Generative AI Policy

The use of generative AI tools like Chat GPT is not permitted in this class unless stated by the instructor.

DISABILITY ACCOMMODATION

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

ADDITIONAL RESOURCES

TECHNICAL HELP

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [in CITL's website](#)). You may also visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

TUTORING

The university provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

HEALTH AND WELLNESS

COUNSELING CENTER

The Counseling Center offers brief, short-term, solution-focused therapeutic interventions for Tennessee Tech University students. The staff of the Counseling Center is available to assist students with their personal and social concerns in hopes of helping them achieve satisfying educational and life experiences. To learn more or schedule an appointment, visit the [Counseling Center website](#).

HEALTH SERVICES

Health Services offers high-quality, affordable care that is accessible and promotes the health and wellness of our Tennessee Tech community. Visit the [Health Services](#) website to learn more.

14d. COMPUTER SCIENCE: 1 New Course

With the advent of the new AI major, current CSC artificial intelligence courses will be migrated to the new AI prefix.

This memo is for the creation of AI 3200 with a new Course Title and Course Description that better reflect the current state of the course content that was in CSC 4220.

PROPOSED COURSE ADDITION:

AI 3200 – Machine Learning

Prerequisites: MATH 2010 and (MATH 3070 or MATH 3470 or MATH 4470 or MATH 5470) and CSC 2310 and (CSC 2700 or MATH 2610 or MATH 3400) and AI 3000.

Credit Hours: 3

Description: This course covers the fundamentals of machine learning with a primary focus on understanding and developing the underlying code and mathematics background (calculus, linear algebra, and modeling) to implement optimization on models fundamental to and including multi-layered neural nets. Students explore optimization as learning, a range of model types, and how to evaluate them in different applications.

Basic concepts like unsupervised and supervised learning, model bias vs variance, regularization, and loss calculation are discussed and applied.

IMPACT ON FACULTY: None.

EFFECTIVE DATE: Fall 2026

JUSTIFICATION: Artificial Intelligence courses that were taught as part of the Computer Science curriculum need to be migrated to the new AI Major.

TENNESSEE TECH UNIVERSITY

COMPUTER SCIENCE

AI 3200 MACHINE LEARNING

INSTRUCTOR INFORMATION

Name: Dr. Jesse Roberts

Office: BRUN 426

Office hours: By appointment made via email OR in ilearn (through the widget on the left at the bottom of the page)

Contact information: You can reach me via email (jtroberts@tntech.edu). I will try to get back to you within 24 hours. (I don't check teams messages, so they probably won't get a reply)

COURSE INFORMATION

PREREQUISITES: MATH 2010 & (MATH 3070 | MATH 3470 | MATH 4470 | MATH 5470) & CSC 2310 & (CSC 2700 | MATH 2610 | MATH 3400) & AI 3000

TEXTS AND REFERENCES

Required: ***None.***

Other References: Videos and other resources to be announced and released in iLearn

COURSE DESCRIPTION

This course covers the fundamentals of machine learning with a primary focus on understanding and developing the underlying code and mathematics background (calculus, linear algebra, and modeling) to implement optimization on models fundamental to and including multi-layered neural nets. Students explore optimization as learning, a range of model types, and how to evaluate them in different applications. Basic concepts like unsupervised and supervised learning, model bias vs variance, regularization, and loss calculation are discussed and applied.

Objectives

1. UNDERSTAND LEARNING AS AN OPTIMIZATION PROBLEM.
2. BE ABLE TO IMPLEMENT CALCULUS BASED OPTIMIZATION OF DIFFERENTIABLE MODELS.
3. UNDERSTAND THE BIAS-VARIANCE TRADE OFF AND THE ROLE OF REGULARIZATION.

4. UNDERSTAND THE DISTINCTION BETWEEN REGRESSION AND CLASSIFICATION TASKS AND HOW IT AFFECTS MODELING.
5. UNDERSTAND AND APPLY EVALUATION METHODS LIKE K-FOLD CROSS VALIDATION.
6. BE ABLE TO IMPLEMENT NEURAL NETWORKS AND FUNDAMENTAL MODELS "FROM SCRATCH".
7. BE ABLE TO IMPLEMENT THE BACKPROPAGATION ALGORITHM IN MULTIPLE MODEL CONTEXTS "FROM SCRATCH".
8. UNDERSTAND SUPERVISED AND UNSUPERVISED LEARNING OBJECTIVES.
9. UNDERSTAND HOW MULTIPLE MODELS CAN BE USED TO CREATE AN ENSEMBLE TO IMPROVE PERFORMANCE.
10. BE AWARE OF A BROAD GROUP OF MACHINE LEARNING APPROACHES AND HOW THEY RELATE TO THE EXPLICITLY STUDIED MODELS.

MAJOR TEACHING METHODS

The primary methods include in-class lectures, discussion, reading, in-class assignments, quizzes, and examinations. Students are expected to view compulsory videos and to stay current with any assigned readings. Attendance is highly encouraged as all assignments are intended to be performed in class.

SPECIAL INSTRUCTIONAL PLATFORM/MATERIALS

- Laptops must be brought to every class session to facilitate collaboration and course work performed in class
- All class materials will be distributed via iLearn

TOPICS TO BE COVERED

- Optimization
- Derivatives
- Partial derivatives
- Chain Rule
- Total Derivative
- Gradient descent
- Simple linear regression
- Multiple linear regression
- Polynomial regression
- Statistics and K fold cross validation
- Bias variance tradeoff
- Regularization
- Classification
- Logistic regression

- Ensembles of logistic regressors
- Neural networks
- Auto-encoders

GRADING AND EVALUATION PROCEDURES

COURSE COMPONENTS

Assignments: 30%

Quizzes: 4 @ 5% each (total 20%)

Exams: 2 @ 25% each (total 50%)

GRADING SCALE

Letter Grade	Grade Range
A	90+
B	80-89
C	70-79
D	60-69
F	59 and below

GRADUATE STUDENTS

Graduate students taking this course at a 5000 level will have additional requirements in the assignments as well as an additional assignment requiring them to read a long form book on machine learning and meeting to discuss it.

COURSE POLICIES

STUDENT ACADEMIC INTEGRITY POLICY

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding academic integrity violations. All students must read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

- You may collaborate with others in the completion of assignments.
- No AI assistance is permitted on any assignment unless specifically designated as the goal of this course is individual understanding and ability to implement fundamental methods.
- Quizzes and Exams must be completed individually, regardless of whether they are conducted in class or remotely via iLearn.

ATTENDANCE POLICY

Class attendance is strongly recommended. Students who are unable to attend class for an extended period of time due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tnitech.edu to request an absence notification.

GENERATIVE AI: MODERATE USE GUIDELINES

In this course, Generative AI resources are allowed to be used for specific assignments or within set parameters, as designated by the instructor. Unless specifically noted by the instructor, AI use is not permitted.

To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

To indicate the use of a Generative AI resource, a student should include the following statement in their assignments: "The author(s) acknowledge the utilization of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was employed in the following manner(s) within this assignment [e.g., brainstorming, grammatical correction, citation, specific section of the assignment]."

Proper citation guidelines can be found on the [CITL website](#).

CLASS PARTICIPATION

Students are expected to engage with others on the activities assigned in class and to participate in class discussions.

ASSIGNMENTS AND RELATED POLICY

Work submitted after the assignment due date will have a 10% late penalty if submitted within 24 of the due date and 20% if submitted between 24 and 48 hours late. Submissions more than 48 hours late will not be accepted (unless caused by emergent circumstances). The late penalty is applied after grading ie. a paper that received 85% credit and was submitted 30 hours after the due date would receive a grade of $85\% * (1 - 0.2) = 68$

Disability Accommodation

Students with a disability requiring accommodations should contact the Accessible Education Center (AEC). An Accommodation Request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden

University Center, Room 112; phone 931-372-6119. For details, view the Tennessee Tech's Policy 340 – [Services for Students with Disabilities at Policy Central](#).

ADDITIONAL RESOURCES

TECHNICAL HELP

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

TUTORING

The university provides free tutoring to all Tennessee Tech students. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

HEALTH AND WELLNESS

COUNSELING CENTER

The Counseling Center offers brief, short-term, solution-focused therapeutic interventions for Tennessee Tech University students. The staff of the Counseling Center is available to assist students with their personal and social concerns in hopes of helping them achieve satisfying educational and life experiences. To learn more or schedule an appointment, visit the [Counseling Center website](#).

HEALTH SERVICES

Health Services offers high-quality, affordable care that is accessible and promotes the health and wellness of our Tennessee Tech community. Visit the [Health Services](#) website to learn more.

PANDEMIC PROTOCOLS

Each student must take personal responsibility for knowing and following any University protocol related to pandemics and other public health events. Students are expected to follow all directives published by Tennessee Tech on its official webpage. As conditions related to the COVID-19 pandemic change, the University's COVID-19 protocols are also likely to change. Students are expected to monitor the University's official webpage to stay up to date on public health protocols.

DISCLAIMER

The instructor reserves the right to modify this syllabus as deemed necessary to accommodate course needs.

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

15. ENGLISH – THEATRE: 9 New Courses, 2 Curriculum Changes for Flight Foundations

Course Additions:

1. THEA 2000 – Stage Management (Lec 3. Cr 3)

Course Description: THEA 2000 introduces students to the principles and practices of stage management for live theatrical production. Designed for students in the Technical Theatre concentration, the course focuses on the organizational, communication, and leadership skills required of professional stage managers. Students will learn rehearsal and performance procedures, documentation practices, and production protocols while gaining hands-on experience supporting theatrical productions in a collaborative environment

Justification: A stage management course is important for technical theatre majors because it provides essential insight into how productions are organized and led. By learning stage management roles, communication practices, and professional documentation, students better understand how technical elements are coordinated within the production process. Training in cue calling, organization, leadership, problem-solving, and safety prepares technical theatre majors to work efficiently and professionally in live performance environments, strengthening collaboration and overall production success.

Effective: Fall 2026

Financial Impact: None. Existing full-time theatre faculty will teach this course within their allotted teaching load.

2. THEA 2500 – Theatrical Makeup (Lec 2. Cr 2)

Course Description: THEA 2500 introduces students to the principles and practices of theatrical makeup for live performance. Designed for students in both the Technical Theatre and Performance Theatre concentrations, the course explores how makeup contributes to character development, storytelling, and visual cohesion on stage. Students will learn foundational techniques in corrective, character, period, and stylized makeup while developing practical application skills through hands-on work and performance-based projects.

Justification: A theatrical makeup course is important for both technical and performance theatre majors because it supports character development, visual storytelling, and professional production practices. Students learn fundamental makeup techniques, script analysis, and safe application methods that enhance stage performance and design consistency. Documenting makeup designs and collaborating with directors, designers, and performers further develops communication and teamwork skills essential to successful theatrical productions.

Effective: Fall 2026

Financial Impact: This course will cost the Theatre Program an additional \$2,400 per year. This is the cost to hire an adjunct to teach this course once a year.

3. THEA 2800 – Lighting Design (Lec 2. Cr 2)

Course Description: THEA 2800 This course introduces students to the principles and practices of theatrical lighting design. Intended for students in the Technical Theatre concentration, the course explores how light is used to support storytelling, mood, and visual composition in live performance.

Students will learn fundamental lighting concepts, develop basic design skills, and gain hands-on experience with lighting instruments, control systems, and documentation used in theatrical production.

Justification: A lighting design course is important for technical theatre majors because it builds foundational knowledge of how lighting supports visibility, mood, and storytelling. Students learn core design principles, create essential lighting documentation, and apply these skills collaboratively using industry-standard equipment, preparing them to work efficiently and professionally in theatrical production environments.

Effective: Fall 2026

Financial Impact: None. Existing full-time theatre faculty will teach this course within their allotted teaching load.

4. THEA 3500 – Costume Design and Construction (Lec 3. Cr 3)

Course Description: THEA 3500 introduces students to the principles and practices of costume design and construction for live theatrical production. Intended for students in the Technical Theatre concentration, the course explores how costumes support character development, storytelling, and visual style. Students will learn foundational skills in costume design, fabric selection, patterning, construction techniques, fittings, and alterations while gaining hands-on experience in a collaborative production environment.

Justification: A Costume Design and Construction course is important for technical theatre majors because it combines design, craftsmanship, and collaboration essential to theatrical production. Students learn to analyze scripts, create design documentation, build and maintain costumes, and select appropriate materials while working safely and professionally. This training prepares technical theatre majors to collaborate effectively with production teams and contribute meaningfully to successful performances.

Effective: Fall 2026

Financial Impact: This course will cost the Theatre Program an additional \$2,400 per year. This is the cost to hire an adjunct to teach this course once a year.

5. THEA 3800 – Sound Design (Lec 2. Cr 2)

Course Description: THEA 3800 introduces students to the principles and practices of theatrical sound design. Intended for students in the Technical Theatre concentration, the course explores how sound supports storytelling, atmosphere, and emotional impact in live performance. Students will develop foundational skills in sound design theory, audio

editing, system setup, and cue programming, while gaining hands-on experience.

Justification: A sound design course is important for technical theatre majors because it teaches how sound supports storytelling and audience experience. Students gain foundational knowledge of acoustics and sound reinforcement, create essential design documentation, and develop practical audio recording and editing skills while working collaboratively using industry-standard practices in theatrical production environments.

Effective: Fall 2026

Financial Impact: None. Existing full-time theatre faculty will teach this course within their allotted teaching load.

6. THEA 1016 – Fundamentals of Acting (Lec 2. Cr 2)

Course Description: Fundamentals of the acting process examined through improvisation, characterization, text analysis, and basic acting technique.

Justification: The Theatre Program would like to change the credits of THEA 1015 – Acting I from 3 credits to 2 credits. This requires proposing a new course number and new course title. Due to the hands-on nature of this class, 2 credits more accurately represents the workload of this course. In addition, reducing the credits of this course, along with several other THEA courses, allows for the addition of several new courses to the Theatre concentrations.

Effective: Fall 2026

Financial Impact: None

7. THEA 2016 - Intermediate Acting (Lec 2. Cr 2)

Course Description: Prerequisite: THEA 1016. Continuation of the principles explored in THEA 1016 with a greater emphasis on scene work, text analysis, and character development.

Justification: The Theatre Program would like to change the credits of THEA 2015 – Acting II from 3 credits to 2 credits. This requires proposing a new course number and new course title. Due to the hands-on nature of this class, 2 credits more accurately represents the workload of this course. In addition, reducing the credits of this course, along with several other THEA courses, allows for the addition of several new courses to the Theatre concentrations.

Effective: Fall 2026

Financial Impact: None

8. THEA 4110 – Advanced Acting Techniques (Lec 2. Cr 2)

Course Description: Prerequisite: THEA 2016. Advanced voice and movement study for the stage with an emphasis on period acting styles; in-depth script and character analysis; and advanced scene study.

Justification: The Theatre Program would like to change the credits of THEA 4100 – Advanced Acting from 3 credits to 2 credits. This requires proposing a new course number and new course title. Due to the hands-on nature of this class, 2 credits more accurately represents the workload of this course. In addition, reducing the credits of this course, along with several other THEA courses, allows for the addition of several new courses to the Theatre concentrations.

Effective: Fall 2026

Financial Impact: None

9. THEA 1010 – First Year Foundations (Lec 1. Cr 1)

Course Description: This First-Year Foundations course introduces theatre majors to the academic, creative, and professional expectations of the Theatre program at Tennessee Tech University. Designed for students in both Performance and Technical Theatre concentrations, this course supports a successful transition to university study by emphasizing career readiness, durable life skills, and informed exploration of theatre-related pathways.

Justification: This course was created to satisfy the requirements of Tennessee Tech’s Quality Enhancement Plan (QEP). This first-year foundations course for Theatre majors will prepare students for the professional expectations of the Theatre program at Tennessee Tech University. In addition, they will complete the Gold Career Readiness Certificate.

Effective: Fall 2026

Financial Impact: None

Curriculum Changes:

1. Alter the degree map of the B.A. in English, Theatre Concentration, Performance Option.

The Theatre Program would like to change where the following courses lie in the degree map

Course	New Semester Location	Course	New Semester Location
THEA 1016	1	THEA 3000	5
THEA 1030	1	Foreign Language	5
PC2500 / COMM 2025	1	Social/Behavioral Sciences	6
THEA 2016	2	THEA 2110	6

THEA 2110	2	THEA 4400	6
MUS 1030	2	Foreign Language	6
General Elective (1 cr)	2	THEA 2110	7
THEA 4110	3	Social/Behavioral Sciences	7
THEA 2110	4	ENGL 3910	7
ENGL 3000	4	THEA 2110	8
THEA 1025	5	THEA 4600	8

Justification: These degree map changes were made for the following reasons:

1. Create a more logical pedagogical sequence of THEA courses in the degree map. Previously, many THEA requirements were listed as THEA electives, which resulted in inconsistent progression through the curriculum. This also resulted in an inconsistent schedule of course offerings, as courses were offered based on immediate student need rather than on a consistent, planned cycle.
2. Move fundamental THEA courses to earlier in the degree map to promote retention. Previously, theatre students only took 2 major-specific courses in the first two years. The revised degree map includes 8 major specific courses in the first two years of study.
3. Create a more balanced distribution of credit hours between all 8 semesters.

Effective: Fall 2026

Financial Impact: These degree map changes are expected to reduce instructional costs by enabling a predictable course cycle that promotes higher enrollment, rather than reactive offerings that often result in low enrollment.

2. Alter the degree map of the B.A. in English, Theatre Concentration, Technical Option.

The Theatre Program would like to change where the following courses lie in the degree map

Course	New Semester Location	Course	New Semester Location
THEA 1025	1	THEA 2110	5
THEA 1030	1	THEA 3000	5
THEA 2110	1	Foreign Language	5
Historical Foundations	1	THEA 2110	6
THEA 2025	2	THEA 4400	6
THEA 2110	2	Foreign Language	6
Historical Foundations	2	Social/Behavioral Sciences	6
General Elective (1 cr)	2	THEA 2110	7
THEA 2110	3	Foreign Language	7
THEA 3200	3	THEA 4200	8
PC2500 / COMM 2025	4	Social/Behavioral Sciences	8
MUS 1030	4	ENGL 4640	8
THEA 2110	4	Foreign Language	8
ENGL 3000	4		

3. Change the title and credit requirements of the general education courses in the following degree options:

- B.A. in English, Theatre Concentration, Performance Option
- B.A. in English, Theatre Concentration, Technical Option

4. Create a more logical pedagogical sequence of THEA courses in the degree map. Previously, many THEA requirements were listed as THEA electives, which resulted in inconsistent progression through the curriculum. This also resulted in an inconsistent schedule of course offerings, as courses were offered based on immediate student need rather than on a consistent, planned cycle.
5. Move fundamental THEA courses to earlier in the degree map to promote retention. Previously, theatre students only took 2 major-specific courses in the first two years. The revised degree map includes 10 major specific courses in the first two years of study.
6. Create a more balanced distribution of credit hours between all 8 semesters.

Effective: Fall 2026

Financial Impact: These degree map changes are expected to reduce instructional costs by enabling a predictable course cycle that promotes higher enrollment, rather than reactive offerings that often result in low enrollment.

The Theatre Program would like to change the following course titles and credits:

Previous Course Title	New Course Title	Credit Requirements
Mathematics	Quantitative Reasoning and Analysis	3
Humanities	Humanities and Cultural Expression	9
History	Historical Foundations	6
Natural Sciences	Scientific Reasoning	4
Communication	Communication*	9
Social/Behavioral Sciences	Social and Behavioral Sciences	6
---	Financial or Digital Literacy	4

* Unchanged course title

Justification: In accordance with the University’s recent changes to the general education curriculum, the Theatre Program would like to change the titles and credits of the courses above to match the new flight foundation categories and requirements.

Effective: Fall 2026

4. Remove 4 credits of Natural Sciences from the following degree options:

- B.A. in English, Theatre Concentration, Performance Option
- B.A. in English, Theatre Concentration, Technical Option

The Theatre Program would like to replace 4 credits of Natural Science requirements with 4 credits of Financial Literacy, Digital Literacy Courses, and/or Scientific Reasoning.

Justification: The University’s new Flight Foundation requirements allow for students to take between 4 and 8 credits of Scientific Reasoning courses. The Theatre Program would like to require 4 credits of Scientific Reasoning courses and allow students to choose 4 credits of Financial Literacy, Digital Literacy Courses, and/or Scientific Reasoning.

Effective: Fall 2026

Financial Impact: None.

5. Add THEA 1016 – Fundamentals of Acting to the B.A. in English, Theatre Concentration, Technical Option

The Theatre Program would like to add this course to the Technical Theatre degree option during the 3rd semester of study.

Justification: Although Technical Theatre students primarily prepare for behind-the-scenes careers, the Theatre faculty believe all majors should develop foundational acting skills. Technical theatre professionals also occasionally perform, particularly as understudies. Placing this course in the third semester allows students to explore performance alongside their technical training, potentially leading to continued involvement in both areas. This approach builds a more diverse skill set and better prepares graduates for a wider range of career opportunities.

Effective: Fall 2026

Financial Impact: None.

6. Add MUS 1650 – Musical Theatre Movement I and MUS 1670 – Musical Theatre Movement III to the B.A. in English, Theatre Concentration, Performance Option

The Theatre Program would like to add these existing courses to the Performance Theatre degree option during the 3rd and 5th semesters of study.

Justification: Movement courses are essential for theatre performance majors because they develop the body as a primary expressive instrument, enabling actors to make intentional physical choices that communicate emotion and meaning beyond text. Because Tech's theatre program presents a musical each year, these musical theatre productions. This training will also address movement demands in non-musical productions, preparing our graduates for a wide range of theatrical styles and professional demands.

Effective: Fall 2026

Financial Impact: None.

7. Add MUS 3006 – Opera Theatre Workshop to the B.A. in English, Theatre Concentration, Performance Option

The Theatre Program would like to add this existing course to the Performance Theatre degree option during the 3rd semester of study.

Justification: Developing basic singing skills is important for theatre performance majors because many productions include musical or vocal elements, even outside of traditional musicals. Since Tech's theatre program presents a musical each year, foundational singing training expands casting opportunities while improving breath support, vocal control, and stamina that also benefit spoken performance.

Effective: Fall 2026

Financial Impact: None.

8. Replace THEA 1015 with THEA 1016 in the B.A. in English, Theatre Concentration, Performance Option

The Theatre Program would like to add this new course to the Performance Theatre degree option during the 1st semester of study.

Justification: The Theatre Program would like to change the credits of THEA 1015 – Acting I from 3 credits to 2 credits. This requires proposing a new course number and new course title. Due to the hands-on nature of this class, 2 credits more accurately represents the workload of this course. In addition, reducing the credits of this course, along with several other THEA courses, allows for the addition of several new courses to the Theatre concentrations.

Effective: Fall 2026

Financial Impact: None.

9. Replace THEA 2015 with THEA 2016 in the B.A. in English, Theatre Concentration, Performance Option

The Theatre Program would like to add this new course to the Performance Theatre degree option during the 2nd semester of study.

Justification: The Theatre Program would like to change the credits of THEA 2015 – Acting II from 3 credits to 2 credits. This requires proposing a new course number and new course title. Due to the hands-on nature of this class, 2 credits more accurately represents the workload of this course. In addition, reducing the credits of this course, along with several other THEA courses, allows for the addition of several new courses to the Theatre concentrations.

Effective: Fall 2026

Financial Impact: None.

10. Replace THEA 4100 with THEA 4110 in the B.A. in English, Theatre Concentration, Performance Option

The Theatre Program would like to add this new course to the Performance Theatre degree option during the 3rd semester of study.

Justification: The Theatre Program would like to change the credits of THEA 4100 – Advanced Acting from 3 credits to 2 credits. This requires proposing a new course number and new course title. Due to the hands-on nature of this class, 2 credits more accurately represents the workload of this course. In addition, reducing the credits of this course, along with several other THEA courses, allows for the addition of several new courses to the Theatre concentrations.

Effective: Fall 2026

Financial Impact: None.

Tennessee Tech University

School of Music

THEA 1010 First Year Foundations - Theatre

Section 001

Instructor:	Craig Dettman
Credits:	1 credit
Semester:	Fall 2026
Dates:	August 20 – December 10
Room:	Backdoor Playhouse
Time:	TBA
Email:	cdettman@tnitech.edu
Telephone:	931-372-3660
Office:	Jere Whitson 142
Prerequisites:	None

1. Required Texts and References

There is no required textbook for this course. All required readings, handouts, documents, and digital materials will be provided by the instructor through iLearn, email, or in class. Students may also be directed to university-supported platforms and publicly available professional resources as needed throughout the semester.

2. Course Description

This First-Year Foundations course introduces theatre majors to the academic, creative, and professional expectations of the Theatre program at Tennessee Tech University. Designed for students in both Performance and Technical Theatre concentrations, the course supports a successful transition to university study by emphasizing career readiness, durable life skills, and informed exploration of theatre-related pathways. Students will engage with departmental resources, faculty, and peers while actively working toward completion of the Gold Career Readiness Certificate, a core component of Tennessee Tech's Quality Enhancement Plan (QEP).

3. Course Objectives

By the end of this course, students will be able to:

- Identify the structure, expectations, and resources of the Theatre program, including distinctions between performance and technical theatre pathways.
- Describe potential career paths and post-graduation opportunities related to theatre and allied fields.
- Demonstrate foundational academic and professional skills necessary for success in theatre coursework and collaborative production environments.
- Apply NACE career competencies through completion of the Gold Career Readiness Certificate requirements.
- Develop short-term academic goals and long-term career interests aligned with personal strengths and values.

4. Major Teaching Methods

This course uses interactive, discussion-based, and experiential teaching methods to support first-year theatre majors in performance and technical concentrations. Instruction emphasizes active engagement, reflection, and practical application of career-readiness skills within theatre study and production.

Teaching strategies include guided discussions, small-group collaboration, workshops (e.g., résumé development, interview skills, goal setting), guest speakers, and structured advising activities. Students complete reflective writing, peer feedback, and hands-on activities that introduce professional expectations in rehearsal and production environments.

Experiential learning is central to the course, connecting classroom content to real-world theatre practice, campus involvement, and requirements for the Gold Career Readiness Certificate. The course also integrates digital literacy and responsible AI use to support ethical and professional decision-making.

5. Topics to be Covered

Topics may include, but are not limited to:

- Introduction to the Theatre Major and Concentrations
- Overview of Theatre Careers (Performance, Design, Technology, Management, Education, and Related Fields)
- Departmental Resources, Facilities, and Production Opportunities
- Professional Expectations and Collaboration in Theatre
- Academic Success Strategies for Creative Disciplines
- Career Readiness and NACE Competencies
- Resume and Interview Preparation for Theatre Students
- Ethical Practice, Professional Conduct, and Responsible Use of AI

7. Grading and Evaluation Procedures

Final averages will be assigned a letter grade, as listed below:

- A 90% and above
- B 80% and above
- C 70% and above
- D 60% and above
- F Below 60%

Grade Breakdown:

- Gold Career Readiness Certificate Requirements – 25%
- Participation and Attendance – 25%
- Written Reflections and Assignments – 25%
- Career and Academic Planning Activities – 25%, engagement in class and production activities, and demonstrated professional growth.

8. Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and the key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding violations of academic integrity. All students are required to read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Attendance Policy

Because this is a discussion- and activity-based course, regular attendance and active participation are essential. More than two unexcused absences may result in a reduced final grade.

The following are defined as acceptable reasons for excused absences:

- Serious illness
- Serious illness or the death of a family member
- University-related trips
- Major religious holidays
- Other situation deemed acceptable by the instructor

Absences related to illness should be verified through a doctor's note or the University Health Services. Absences related to major religious holidays should be communicated at the beginning of the semester.

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Active participation is essential to the collaborative nature of theatre. Students are expected to attend class regularly, arrive prepared, and engage respectfully in discussions, activities, and group work. Participation is evaluated based on engagement, preparedness, and professionalism.

Assignments and Related Policy

Assignments support career readiness and academic development and may include reflections, planning documents, presentations, workshops, and Gold Career Readiness Certificate requirements. All work must be submitted by the stated deadline. Late work may be penalized unless prior arrangements are made. Students must follow university policies regarding academic integrity and responsible use of AI.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are allowed to be used for specific assignments or within set parameters, as designated by the instructor. To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

To indicate the use of a Generative AI resource, a student should include the following statement in their assignments: "The author(s) acknowledge the utilization of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was employed in the following manner(s) within this assignment [e.g., brainstorming, grammatical correction, citation, specific section of the assignment]."

Proper citation guidelines can be found on the CITL website.

9. Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

10. Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning \(CITL\)](#) website or call 931-372-3675 for assistance.

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

Tutoring

The university provides free tutoring to all Tennessee Tech students through the Learning Center within the Volpe Library. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Health and Wellness

Counseling Center and Health Services

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Emergency Preparedness Protocols

Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#).

Tennessee Tech University

School of Music

THEA 2000 Stage Management

Section 001

Instructor: Craig Dettman
Credits: 3 credits
Semester: Fall 2026
Dates: August 20 – December 10
Room: Backdoor Playhouse
Time: TBA
Email: cdettman@tnitech.edu
Telephone: 931-372-3660
Office Hours: Jere Whitson 142
Prerequisites: None

1. Required Texts and References

- Stage Management handouts and digital resources (provided by instructor)
- Notebook or digital note-taking device
- Pencil
- USB drive or cloud-based file storage for paperwork and documentation
- Prompt book binder with dividers (or digital equivalent)
- Closed-toe shoes suitable for backstage and production work
- Additional materials as required for specific projects

Students are expected to have required materials by the second week of class. Failure to obtain required materials may result in grade deductions.

2. Course Description

This course introduces students to the principles and practices of stage management for live theatrical production. Designed for students in the Technical Theatre concentration, the course focuses on the organizational, communication, and leadership skills required of professional stage managers. Students will learn rehearsal and performance procedures, documentation practices, and production protocols while gaining hands-on experience supporting theatrical productions in a collaborative environment.

3. Course Objectives

By the end of this course, students will be able to:

1. Explain the roles and responsibilities of the stage manager and assistant stage manager throughout the production process.
2. Create and maintain professional stage management paperwork, including prompt books, rehearsal reports, and performance documentation.
3. Effectively communicate with directors, designers, performers, and production staff.
4. Call cues accurately and consistently during rehearsals and performances.
5. Apply organizational, leadership, and problem-solving skills in a live production environment.
6. Demonstrate professional standards of conduct, safety awareness, and time management

4. Major Teaching Methods

This course is taught in person and combines lecture, discussion, demonstration, practical exercises, and production-based application. Instruction emphasizes applied learning through simulated rehearsal scenarios, paperwork assignments, cue-calling practice, and participation in departmental productions.

5. Topics to be Covered

- The role of the stage manager in theatrical production
- Script analysis for stage management
- Rehearsal planning and scheduling
- Prompt book organization
- Blocking notation
- Rehearsal and performance reports
- Cue calling and communication systems
- Backstage etiquette and safety
- Collaboration and leadership in production teams

7. Grading and Evaluation Procedures

Final averages will be assigned a letter grade, as listed below:

- A 90% and above
- B 80% and above
- C 70% and above
- D 60% and above
- F Below 60%

Grade Breakdown:

- Stage Management Projects and Paperwork: 50%
- Participation and Production Work: 30%
- Quizzes / Written or Reflective Work: 20%

Grades are based on attendance, preparation, accuracy and completeness of paperwork, effectiveness in communication, engagement in class and production activities, and demonstrated professional growth.

8. Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and the key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding violations of academic integrity. All students are required to read and understand Policy 216:

Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Attendance Policy

Final grades will be reduced by one letter grade for each unexcused absence and half a letter grade for each unexcused tardy. Three unexcused absences will result in an automatic failure of the course.

The following are defined as acceptable reasons for excused absences:

- Serious illness
- Serious illness or the death of a family member
- University-related trips
- Major religious holidays
- Other situation deemed acceptable by the instructor

Absences related to illness should be verified through a doctor's note or the University Health Services. Absences related to major religious holidays should be communicated at the beginning of the semester.

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Active participation is essential in a stage management course. Students are expected to arrive prepared and ready to work at the scheduled start time, actively engage in rehearsals and class activities, and contribute to a professional and collaborative environment.

At the instructor's discretion, students may be required to participate in additional rehearsals, technical rehearsals, dress rehearsals, performances, or production meetings outside of scheduled class time. These sessions may or may not be supervised directly by the instructor; however, attendance is mandatory. Failure to attend required activities may negatively impact the participation portion of the final grade.

Assignments and Related Policy

Students will complete assignments designed to reinforce stage management skills, including paperwork creation, rehearsal documentation, cue sheets, and prompt book development. At the instructor's discretion, students may be required to submit digital copies of stage management materials or demonstrate cue calling and rehearsal management skills.

Assignments will be evaluated based on accuracy, organization, clarity, professionalism, and adherence to deadlines. Late or incomplete submissions may result in a reduction of the assignment grade unless prior arrangements have been approved.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course

9. Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

10. Additional Resources

Technical Help

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Tutoring

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Health and Wellness

Counseling Center and Health Services

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Emergency Preparedness Protocols

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Tennessee Tech University

School of Music

THEA 2016 Intermediate Acting

Section 001

Instructor:	Prudence Van Aalten
Credits:	2 credits
Semester:	Fall 2026
Dates:	August 20 – December 10
Room:	Backdoor Playhouse
Time:	TBA
Email:	Pvanaalten@tntech.edu
Telephone:	931-372-3660
Office:	Jere Whitson 142
Prerequisites:	None

1. Required Texts and References

There is no required textbook for this course. All required readings, handouts, documents, and digital materials will be provided by the instructor through iLearn, email, or in class. Students may also be directed to university-supported platforms and publicly available professional resources as needed throughout the semester.

2. Course Description

Prerequisite: THEA 1016. Continuation of the principles explored in THEA 1016 with a greater emphasis on scene work, text analysis, and character development.

3. Course Objectives

By the end of this course, students will be able to:

- Apply intermediate acting techniques to develop truthful and consistent character behavior in rehearsed scenes.
- Analyze dramatic texts to identify objectives, tactics, relationships, and given circumstances that inform performance choices.
- Develop and sustain a fully realized character through physical, vocal, and psychological exploration.
- Collaborate effectively with scene partners to build dynamic and responsive performances.
- Demonstrate effective rehearsal practices, including preparation, memorization, and responsiveness to direction and feedback.
- Evaluate and refine performance choices through instructor and peer critique.

4. Major Teaching Methods

- Studio-Based Instruction: Performance-centered classes emphasizing rehearsal and applied acting techniques.
- Scene Study: Rehearsal and presentation of scenes from contemporary and classical dramatic literature.
- Instructor Demonstration and Coaching: Modeling and guided refinement of acting choices and rehearsal practices.

- Discussion and Critique: Instructor and peer feedback supporting performance analysis and artistic growth.

5. Topics to be Covered

Topics may include, but are not limited to:

- Advanced character objectives, tactics, and playable actions
- Script and character analysis for scene work
- Partner interaction and ensemble responsiveness
- Rehearsal techniques and scene development
- Physical and vocal choices in character development
- Performance critique and revision

7. Grading and Evaluation Procedures

Final averages will be assigned a letter grade, as listed below:

- A 90% and above
- B 80% - 89%
- C 70% - 79%
- D 60% - 69%
- F Below 59%

8. Course Policies

Student Academic Integrity Policy

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Attendance Policy

Because this is a discussion- and activity-based course, regular attendance and active participation are essential. More than two unexcused absences may result in a reduced final grade.

The following are defined as acceptable reasons for excused absences:

- Serious illness
- Serious illness or the death of a family member
- University-related trips
- Major religious holidays
- Other situation deemed acceptable by the instructor

Absences related to illness should be verified through a doctor's note or the University Health Services. Absences related to major religious holidays should be communicated at the beginning of the semester.

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tnitech.edu to request an absence notification.

Class Participation

Active participation is essential to the collaborative nature of theatre. Students are expected to attend class regularly, arrive prepared, and engage respectfully in discussions, activities, and group work. Participation is evaluated based on engagement, preparedness, and professionalism.

Assignments and Related Policy

All work must be submitted by the stated deadline. Late work may be penalized unless prior arrangements are made. Students must follow university policies regarding academic integrity and responsible use of AI.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course

9. Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

10. Additional Resources

Technical Help

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Tutoring

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Health and Wellness

Counseling Center and Health Services

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Emergency Preparedness Protocols

Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#)..

Tennessee Tech University

School of Music

THEA 2500 Theatrical Makeup

Section 001

Instructor: Craig Dettman
Credits: 2 credits
Semester: Fall 2026
Dates: August 20 – December 10
Room: Backdoor Playhouse
Time: TBA
Email: cdettman@tnitech.edu
Telephone: 931-372-3660
Office Hours: Jere Whitson 142
Prerequisites: None

1. Required Texts and References

- Theatrical Makeup handouts and digital resources (provided by instructor)
- Makeup kit and supplies (list provided by instructor)
- Notebook or digital note-taking device
- Pencil
- Mirror and basic hygiene supplies
- USB drive or cloud-based file storage for photo documentation
- Additional materials as required for specific projects

Students are expected to have required materials by the second week of class. Failure to obtain required materials may result in grade deductions.

2. Course Description

This course introduces students to the principles and practices of theatrical makeup for live performance. Designed for students in both the Technical Theatre and Performance Theatre concentrations, the course explores how makeup contributes to character development, storytelling, and visual cohesion on stage. Students will learn foundational techniques in corrective, character, period, and stylized makeup while developing practical application skills through hands-on work and performance-based projects.

3. Course Objectives

By the end of this course, students will be able to:

1. Identify and apply fundamental theatrical makeup techniques appropriate for stage performance.
2. Analyze scripts and characters to develop makeup designs that support storytelling and production concepts.
3. Safely and effectively apply, maintain, and remove theatrical makeup using industry-standard practices.
4. Document makeup designs through written notes and photographic records.
5. Collaborate professionally with directors, designers, and performers in a production environment.

4. Major Teaching Methods

This course is taught in person and combines lecture, demonstration, guided practice, peer critique, and hands-on application. Instruction emphasizes applied learning through in-class makeup labs, design exercises, and performance-based projects.

5. Topics to be Covered

- Makeup tools, materials, and hygiene practices
- Corrective and natural makeup for the stage
- Character and age makeup
- Period and stylized makeup
- Color theory and stage lighting considerations
- Makeup design for different performance spaces
- Script and character analysis for makeup design
- Basic hair and facial hair techniques (as applicable)
- Safety, sanitation, and professional standards

7. Grading and Evaluation Procedures

Final averages will be assigned a letter grade, as listed below:

- A 90% and above
- B 80% and above
- C 70% and above
- D 60% and above
- F Below 60%

Grade Breakdown:

- Makeup Projects and Design Assignments: 60%
- Participation and In-Class Lab Work: 25%
- Quizzes / Written or Reflective Work: 15%

Grades are based on attendance, preparation, completion of assignments, engagement in class activities, and demonstrated improvement in makeup application and design skills.

8. Course Policies

Student Academic Integrity Policy

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Attendance Policy

Final grades will be reduced by one letter grade for each unexcused absence and half a letter grade for each unexcused tardy. Three unexcused absences will result in an automatic failure of the course.

The following are defined as acceptable reasons for excused absences:

- Serious illness
- Serious illness or the death of a family member
- University-related trips
- Major religious holidays
- Other situation deemed acceptable by the instructor

Absences related to illness should be verified through a doctor's note or the University Health Services. Absences related to major religious holidays should be communicated at the beginning of the semester.

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Active participation is essential in a performance-based course. Students are expected to arrive prepared and ready to work at the scheduled start time, to assist classmates when appropriate, and to maintain a professional and respectful learning environment.

At the instructor's discretion, students may be required to participate in additional rehearsals, fittings, photo calls, or production-related activities outside of scheduled class time. These sessions may or may not be supervised directly by the instructor; however, attendance is mandatory. Failure to attend required activities may negatively impact the participation portion of the final grade.

Assignments and Related Policy

Students will complete assignments designed to reinforce theatrical makeup techniques and design concepts. At the instructor's discretion, students may be required to submit photo documentation, written reflections, or design sketches demonstrating their work.

Assignments will be evaluated based on accuracy, technique, creativity, cleanliness, and adherence to design objectives, as well as submission by the stated deadline. Late or incomplete submissions may result in a reduction of the assignment grade unless prior arrangements have been approved.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course

9. Disability Accommodation

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10. Additional Resources

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Tutoring

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Health and Wellness

Counseling Center and Health Services

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Emergency Preparedness Protocols

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Tennessee Tech University

School of Music

THEA 2800 Lighting Design

Section 001

Instructor:	Craig Dettman
Credits:	2 credits
Semester:	Fall 2026
Dates:	August 20 – December 10
Room:	Backdoor Playhouse
Time:	TBA
Email:	cdettman@tnitech.edu
Telephone:	931-372-3660
Office Hours:	Jere Whitson 142
Prerequisites:	None

1. Required Texts and References

- Lighting Design handouts and digital resources (provided by instructor)
- Notebook or digital note-taking device
- Pencil
- USB drive or cloud-based file storage
- Access to lighting software as assigned
- Additional materials as required for specific projects

Students are expected to have required materials by the second week of class. Failure to obtain required materials may result in grade deductions.

2. Course Description

This course introduces students to the principles and practices of theatrical lighting design. Intended for students in the Technical Theatre concentration, the course explores how light is used to support storytelling, mood, and visual composition in live performance. Students will learn fundamental lighting concepts, develop basic design skills, and gain hands-on experience with lighting instruments, control systems, and documentation used in theatrical production.

3. Course Objectives

By the end of this course, students will be able to:

1. Explain the fundamental principles of lighting design, including intensity, color, distribution, movement, and texture.
2. Create basic lighting design documentation, including light plots, channel hookups, and cue sheets.
3. Apply lighting design concepts in a collaborative production environment using industry-standard equipment and practices.

4. Major Teaching Methods

This course is taught in person and combines lecture, discussion, demonstrations, and hands-on lab work. Instruction emphasizes applied learning through practical exercises, design projects, and participation in lighting activities for theatrical productions.

5. Topics to be Covered

- Functions of lighting in theatrical storytelling
- Lighting instruments and equipment
- Color theory and light
- Lighting angles and visibility
- Lighting control systems and basic programming
- Script analysis for lighting designers
- Lighting paperwork and documentation

- Collaboration with directors and designers
- Safety procedures and best practices

7. Grading and Evaluation Procedures

Final averages will be assigned a letter grade, as listed below:

- A 90% and above
- B 80% and above
- C 70% and above
- D 60% and above
- F Below 60%

Grade Breakdown:

- Projects and Design Assignments: 60%
- Participation and Lab Work: 25%
- Quizzes / Written Work: 15%

Grades are based on attendance, preparation, completion of assignments, engagement in class activities, and demonstrated growth in lighting design skills.

8. Course Policies

Student Academic Integrity Policy

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Attendance Policy

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- Serious illness or the death of a family member
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- Major religious holidays
- Other situation deemed acceptable by the instructor

Absences related to illness should be verified through a doctor's note or the University Health Services. Absences related to major religious holidays should be communicated at the beginning of the semester.

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Class Participation

Active participation is essential in a technical theatre course. Students are expected to assist with the setup, focus, programming, and strike of lighting equipment and to be ready to begin work at the scheduled start time. Collaboration and professionalism are critical components of theatrical production, and students are expected to contribute constructively to the class and production team environment.

At the instructor's discretion, students may be required to participate in additional work calls, technical rehearsals, or production meetings outside of regularly scheduled class time. These sessions may or may not be supervised directly by the instructor; however, attendance is mandatory. Failure to attend required production activities may negatively impact the participation portion of the final grade.

Assignments and Related Policy

Students will complete a series of assignments designed to reinforce lighting design concepts and technical skills. At the instructor's discretion, students may be required to submit digital documentation or video recordings of lighting work, such as lighting looks, cues, focus sessions, or programming demonstrations.

Assignments will be evaluated based on accuracy, completeness, and adherence to design or technical requirements, as well as submission by the stated deadline. Late or incomplete submissions may result in a reduction of the assignment grade unless prior arrangements have been approved by the instructor.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course

9. Disability Accommodation

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Emergency Preparedness Protocols

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Tennessee Tech University

School of Music

THEA 3500 Costume Design and Construction

Section 001

Instructor: Craig Dettman
Credits: 3 credits
Semester: Fall 2026
Dates: August 20 – December 10
Room: Backdoor Playhouse
Time: TBA
Email: cdettman@tnitech.edu
Telephone: 931-372-3660
Office Hours: Jere Whitson 142
Prerequisites: None

1. Required Texts and References

- Costume Design and Construction handouts and digital resources (provided by instructor)
- Basic sewing kit (list provided by instructor)
- Notebook or digital note-taking device
- Pencil
- USB drive or cloud-based file storage for design and photo documentation
- Closed-toe shoes suitable for shop work
- Additional materials as required for specific projects

Students are expected to have required materials by the second week of class. Failure to obtain required materials may result in grade deductions.

2. Course Description

This course introduces students to the principles and practices of costume design and construction for live theatrical production. Intended for students in the Technical Theatre concentration, the course explores how costumes support character development, storytelling, and visual style. Students will learn foundational skills in costume design, fabric selection, patterning, construction techniques, fittings, and alterations while gaining hands-on experience in a collaborative production environment.

3. Course Objectives

By the end of this course, students will be able to:

1. Analyze scripts and production concepts to develop effective costume designs.
2. Create costume renderings and basic design documentation.
3. Demonstrate foundational costume construction skills, including measuring, cutting, sewing, and finishing garments.
4. Select appropriate fabrics, materials, and construction methods for theatrical use.
5. Execute fittings, alterations, and repairs using safe and professional practices.
6. Collaborate effectively with directors, designers, and performers in a production setting.

4. Major Teaching Methods

This course is taught in person and combines lecture, demonstration, guided practice, shop-based lab work, and critique. Instruction emphasizes applied learning through hands-on construction projects, design exercises, and participation in production-related costume work.

5. Topics to be Covered

- Introduction to costume design for theatre

- Script and character analysis
- Costume research and rendering techniques
- Measuring, patterning, and garment construction
- Sewing techniques and machine operation
- Fabric types and material selection
- Fittings, alterations, and costume maintenance
- Costume shop organization and workflow
- Safety procedures and best practices

7. Grading and Evaluation Procedures

Final averages will be assigned a letter grade, as listed below:

- A 90% and above
- B 80% and above
- C 70% and above
- D 60% and above
- F Below 60%

Grade Breakdown:

- Costume Design and Construction Projects: 60%
- Participation and Shop/Lab Work: 25%
- Quizzes / Written or Reflective Work: 15%

Grades are based on attendance, preparation, completion of assignments, engagement in class activities, craftsmanship, and demonstrated improvement in technical and design skills.

8. Course Policies

Student Academic Integrity Policy

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Attendance Policy

Final grades will be reduced by one letter grade for each unexcused absence and half a letter grade for each unexcused tardy. Three unexcused absences will result in an automatic failure of the course.

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- Serious illness
- Serious illness or the death of a family member
- University-related trips
- Major religious holidays
- Other situation deemed acceptable by the instructor

Absences related to illness should be verified through a doctor's note or the University Health Services. Absences related to major religious holidays should be communicated at the beginning of the semester.

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Active participation is essential in a technical theatre course. Students are expected to arrive prepared and ready to work at the scheduled start time, assist with costume shop setup and cleanup, and contribute to a professional and collaborative work environment.

At the instructor's discretion, students may be required to participate in additional fittings, work calls, dress rehearsals, or production-related activities outside of scheduled class time. These sessions may or may not be supervised directly by the instructor; however, attendance is mandatory. Failure to attend required activities may negatively impact the participation portion of the final grade.

Assignments and Related Policy

Students will complete assignments designed to reinforce costume design and construction skills. At the instructor's discretion, students may be required to submit design renderings, construction samples, fittings documentation, or photo records of completed work.

Assignments will be evaluated based on accuracy, craftsmanship, creativity, adherence to design objectives, and completion by the stated deadline. Late or incomplete submissions may result in a reduction of the assignment grade unless prior arrangements have been approved.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course

9. Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

10. Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning \(CITL\)](#) website or call 931-372-3675 for assistance.

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

Tutoring

The university provides free tutoring to all Tennessee Tech students through the Learning Center within the Volpe Library. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Health and Wellness

Counseling Center and Health Services

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Emergency Preparedness Protocols

Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#).

Tennessee Tech University

School of Music

THEA 3800 Sound Design

Section 001

Instructor: Craig Dettman
Credits: 2 credits
Semester: Fall 2026
Dates: August 20 – December 10
Room: Backdoor Playhouse
Time: TBA
Email: cdettman@tnitech.edu
Telephone: 931-372-3660
Office Hours: Jere Whitson 142
Prerequisites: None

1. Required Texts and References

- Sound Design handouts and digital resources (provided by instructor)
- Notebook or digital note-taking device
- Pencil
- USB drive or cloud-based file storage
- Access to audio editing software (as assigned)
- Headphones (recommended)
- Additional materials as required for specific projects

Students are expected to have required materials by the second week of class. Failure to obtain required materials may result in grade deductions.

2. Course Description

This course introduces students to the principles and practices of theatrical sound design. Intended for students in the Technical Theatre concentration, the course explores how sound supports storytelling, atmosphere, and emotional impact in live performance. Students will develop foundational skills in sound design theory, audio editing, system setup, and cue programming, while gaining hands-on experience with industry-standard equipment and software used in theatrical production.

3. Course Objectives

By the end of this course, students will be able to:

1. Explain the fundamental principles of theatrical sound design, including acoustics, sound reinforcement, spatialization, and storytelling through sound.
2. Create basic sound design documentation, including cue sheets, system diagrams, and playback paperwork.
3. Record, edit, and manipulate audio using digital audio software appropriate for theatrical production.
4. Apply sound design concepts in a collaborative production environment using industry-standard practices.

4. Major Teaching Methods

This course is taught in person and combines lecture, demonstration, discussion, and hands-on lab work. Instruction emphasizes applied learning through practical audio projects, design exercises, and participation in sound activities for theatrical productions.

5. Topics to be Covered

- Functions of sound in theatrical storytelling
- Fundamentals of acoustics
- Microphones and sound reinforcement systems
- Digital audio basics and file management
- Audio editing and playback software
- Cue creation and programming
- Script analysis for sound designers
- Collaboration with directors and designers
- Safety procedures and equipment handling best practices

7. Grading and Evaluation Procedures

Final averages will be assigned a letter grade, as listed below:

- A 90% and above
- B 80% and above
- C 70% and above
- D 60% and above
- F Below 60%

Grade Breakdown:

- Design Projects and Audio Assignments: 60%
- Participation and Lab Work: 25%
- Quizzes / Written Work: 15%

Grades are based on attendance, preparation, completion of assignments, engagement in class activities, and demonstrated growth in sound design skills.

8. Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and the key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding violations of academic integrity. All students are required to read and understand Policy 216:

Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Attendance Policy

Final grades will be reduced by one letter grade for each unexcused absence and half a letter grade for each unexcused tardy. Three unexcused absences will result in an automatic failure of the course.

The following are defined as acceptable reasons for excused absences:

- Serious illness
- Serious illness or the death of a family member
- University-related trips
- Major religious holidays
- Other situation deemed acceptable by the instructor

Absences related to illness should be verified through a doctor's note or the University Health Services. Absences related to major religious holidays should be communicated at the beginning of the semester.

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Active participation is essential in a technical theatre course. Students are expected to assist with the setup, testing, troubleshooting, and strike of sound equipment and to be ready to begin work at the scheduled start time. Collaboration and professionalism are critical components of theatrical production, and students are expected to contribute constructively to the class and production team environment.

At the instructor's discretion, students may be required to participate in additional work calls, technical rehearsals, or production meetings outside of regularly scheduled class time. These sessions may or may not be supervised directly by the instructor; however, attendance is mandatory. Failure to attend required production activities may negatively impact the participation portion of the final grade.

Assignments and Related Policy

Students will complete assignments designed to reinforce sound design concepts and technical skills. At the instructor's discretion, students may be required to submit digital audio files, cue sequences, recordings, or documentation demonstrating their work.

Assignments will be evaluated based on accuracy, technical quality, creative application of sound design principles, and adherence to submission deadlines. Late or incomplete submissions may result in a reduction of the assignment grade unless prior arrangements have been approved by the instructor.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course

9. Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

10. Additional Resources

Technical Help

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If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning \(CITL\)](#) website or call 931-372-3675 for assistance.

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

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Health and Wellness

Counseling Center and Health Services

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Emergency Preparedness Protocols

Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#).

Tennessee Tech University

School of Music

THEA 4110 Advanced Acting Techniques

Section 001

Instructor:	Prudence Van Aalten
Credits:	2 credits
Semester:	Fall 2026
Dates:	August 20 – December 10
Room:	Backdoor Playhouse
Time:	TBA
Email:	Pvanaalten@tntech.edu
Telephone:	931-372-3660
Office:	Jere Whitson 142
Prerequisites:	None

1. Required Texts and References

There is no required textbook for this course. All required readings, handouts, documents, and digital materials will be provided by the instructor through iLearn, email, or in class. Students may also be directed to university-supported platforms and publicly available professional resources as needed throughout the semester.

2. Course Description

Prerequisite: THEA 2016. Advanced voice and movement study for the stage with an emphasis on period acting styles; in-depth script and character analysis; and advanced scene study.

3. Course Objectives

By the end of this course, students will be able to:

- Apply advanced vocal and physical techniques to support expressive and controlled stage performance.
- Analyze dramatic texts in depth to inform nuanced character development and performance choices.
- Demonstrate an understanding of historical and period acting styles in performance.
- Develop and sustain complex characters through detailed physical, vocal, and psychological exploration.
- Perform advanced scene work that reflects strong partner interaction, stylistic awareness, and refined acting technique.
- Integrate instructor and peer feedback to refine performance and strengthen artistic interpretation.

4. Major Teaching Methods

- Advanced studio-based instruction emphasizes intensive studio work focused on voice, movement, and performance technique.
- Scene study involves the rehearsal and performance of extended scenes with an emphasis on character development and stylistic interpretation.
- Instructor coaching and direction provide individualized feedback to guide advanced performance choices.
- Discussion and performance critique include analytical discussion and peer feedback that support artistic refinement.

5. Topics to be Covered

Topics may include, but are not limited to:

- Advanced vocal and physical techniques for the stage
- Acting styles across historical periods
- In-depth script and character analysis
- Advanced scene study and rehearsal practices
- Character embodiment through voice and movement
- Performance critique and refinement

7. Grading and Evaluation Procedures

Final averages will be assigned a letter grade, as listed below:

- A 90% and above
- B 80% - 89%
- C 70% - 79%
- D 60% - 69%
- F Below 59%

8. Course Policies

Student Academic Integrity Policy

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Attendance Policy

Because this is a discussion- and activity-based course, regular attendance and active participation are essential. More than two unexcused absences may result in a reduced final grade.

The following are defined as acceptable reasons for excused absences:

- Serious illness
- Serious illness or the death of a family member
- University-related trips

Major religious holidays
Other situation deemed acceptable by the instructor

Absences related to illness should be verified through a doctor's note or the University Health Services. Absences related to major religious holidays should be communicated at the beginning of the semester.

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Active participation is essential to the collaborative nature of theatre. Students are expected to attend class regularly, arrive prepared, and engage respectfully in discussions, activities, and group work. Participation is evaluated based on engagement, preparedness, and professionalism.

Assignments and Related Policy

All work must be submitted by the stated deadline. Late work may be penalized unless prior arrangements are made. Students must follow university policies regarding academic integrity and responsible use of AI.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course

9. Disability Accommodation

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English, Theatre Concentration, Performance Option, B.A.
Revised Spring 2026

Freshman Year

First Semester

THEA1016 - Fundamentals of Acting (2 cr)

THEA1030 - Intro to Theater (3 cr)

ENGL 1010 - English Composition I (FF) (3 cr)

Quantitative Reasoning and Analysis (FF) (3 cr)

PC 2500 - Communicating in the Professions (FF) (3 cr)

OR COMM 2025 - Fundamentals of Communication (FF) (3 cr)

Credits: 14

Second Semester

THEA 2016 - Intermediate Acting (2 cr)

THEA 2110 – Play Production (1 cr)

ENGL 1020 - English Composition II (3 cr)

MUS 1030 - Music Appreciation (FF) (3 cr)

Scientific Reasoning (FF) (4 cr)

General Elective (1 cr)

Credits: 14

Sophomore Year

First Semester

MUS 1650 - Musical Theatre Movement I (1 cr)

MUS 3006 - Opera Theatre Workshop (3 cr)

THEA 4110 Advanced Acting Techniques (2 cr)

ENGL 2330 - Topics in World Literature (FF) (3 cr)

Foreign Language (Generic) (3 cr)

Historical Foundations (FF) (3 cr)

Credits: 15

Second Semester

THEA 2110 – Play Production (1 cr)

THEA 2155 - Voice-Diction/Actrs-Non-Actrs (3 cr) Fall

ENGL 3000 - Intro/Engl Method-Resrch (3 cr)

ENGL 3810 - British Literature I (3 cr)

Foreign Language (Generic) (3 cr)

Historical Foundations (FF) (3 cr)

Credits: 16

Junior Year

First Semester

THEA 1025 - Stagecraft I (3 cr)
THEA 3000 - History of the Theatre (3 cr)
ENGL 3820 - British Literature II (3 cr)
THEA 2500 – Theatrical Makeup (2 cr)
Foreign Language (Generic) (3 cr)
MUS 1670 - Musical Theatre Movement III (1 cr)

Credits: 15

Second Semester

THEA 2110 - Play Production (1 cr)
THEA 3002 - Fundamentals of Playwriting (3 cr)
OR THEA 2025 - Stagecraft II (3 cr)
OR THEA 2000 – Stage Management (3 cr)
OR THEA 3600 - Film Studies (3 cr)
OR ENGL2400 - Intro to Creative Writing (3 cr)
OR ENGL4430 - Creative Writing: Fiction (3 cr)
OR ENGL4440 - Creative Writing: Essay (3 cr)
OR ENGL4411 - Writing in the Professions (3 cr)
OR ENGL4421 - Forms of Arg & Pers:Theo/Pract (3 cr)
OR ENGL4451 - Intro/Rhetoric:Theory & Pract (3 cr)
THEA 4400 Dramatic Literature (3 cr)
ENGL 3920 - American Literature II (3 cr)
Social and Behavioral Sciences (FF) (3 cr)
Foreign Language (Generic) (3 cr)

Credits: 16

Senior Year

First Semester

THEA 2110 – Play Production (1 cr)
THEA 4300 - Play Directing (3 cr)
ENGL 4121 - Shakespeare (3 cr)
ENGL 4640 - Modern & Contemporary Drama (3 cr)
Social and Behavioral Sciences (FF) (3 cr)
ENGL 3910 - American Literature I (3 cr)

Credits: 16

Second Semester

THEA 2110 – Play Production (1 cr)

THEA 4500 Creative Dramatics (3 cr)

OR THEA 3200 – Theatrical Design (3 cr)

OR THEA 3500 – Costume Design and Construction (3 cr)

OR THEA 4200 – Theatre Design Practicum (3 cr)

OR ENGL 4511 - Intro/Descriptive Linguistics (3 cr)

OR ENGL 4521 - History-English Language (3 cr)

OR ENGL 4531 - Grammar and Language (3 cr)

THEA 4600 Theatre Internship (3 cr)

ENGL 4995 - Senior Colloquium (3 cr)

Financial or Digital Literacy (3 cr.)

FF Elective (Scientific Reasoning, Financial, and/or Digital Literacy) (1 cr)

Credits: 14

* All courses in **bold type** have been moved to a different semester of study but were previously included in this concentration.

* All courses in **red text** have been added to this concentration, but were existing courses in the University catalogue.

* All courses in **green text** are newly proposed courses and have been added to this concentration.

English, Theatre Concentration, Technical Option, B.A.
Revised Spring 2026

Freshman Year

First Semester

THEA 1025 - Stagecraft I (3 cr)
THEA 1030 - Intro to Theater (FF) (3 cr)
THEA 2110 – Play Production (1 cr)
ENGL 1010 - English Composition I (FF) (3 cr)
Quantitative Reasoning and Analysis (FF) (3 cr)
Historical Foundations (FF) (3 cr)

Credits: 16

Second Semester

THEA 2025 - Stagecraft II (3 cr)
THEA 2110 – Play Production (1 cr)
ENGL 1020 - English Composition II (FF) (3 cr)
Scientific Reasoning (FF) (4 cr)
Historical Foundations (FF) (3 cr)
General Elective (1 cr)

Credits: 15

Sophomore Year

First Semester

THEA 2110 – Play Production (1 cr)
THEA 3200 - Theatrical Design (3 cr)
THEA 2000 – Stage Management (3 cr)
ENGL 2330 - Topics in World Literature (FF) (3 cr)
THEA 2500 – Theatrical Makeup (2 cr)
OR THEA 3500 – Costume Design and Construction (3 cr)
THEA1016 - Fundamentals of Acting (2 cr)

Actual Credits: 14/15

Second Semester

MUS 1030 - Music Appreciation (FF) (3 cr)
THEA 2110 – Play Production (1 cr)
ENGL 3000 - Intro/Engl Method-Research (3 cr)
ENGL 3810 - British Literature I (3 cr)
THEA 2800 – Lighting Design (2 cr)
Or THEA 3800 – Sound Design (2 cr)
PC 2500 - Communicating in the Professions (FF) (3 cr)
OR COMM 2025 - Fundamentals of Communication (FF) (3 cr)

Credits: 15

Junior Year

First Semester

THEA 2110 - Play Production (1 cr)
THEA 3000 - History of the Theatre (3 cr)
THEA 3500 – Costume Design and Construction (3 cr)
OR THEA 2500 – Theatrical Makeup (2 cr)
ENGL 3820 - British Literature II (3 cr)
ENGL 3910 - American Literature I (3 cr)
Foreign Language (Generic) (3 cr)

Credits: 15/16

Second Semester

THEA 2110 – Play Production (1 cr)
THEA 3800 – Sound Design (2 cr)
Or Lighting Design (2 cr)
THEA 4400 Dramatic Literature (3 cr)
ENGL 3920 - American Literature II (3 cr)
Foreign Language (Generic) (3 cr)
Social and Behavioral Sciences (FF) (3 cr)

Credits: 15

Senior Year

First Semester

THEA 2110 – Play Production (1 cr)
THEA 4300 - Play Directing (3 cr)
ENGL 4121 - Shakespeare (3 cr)
Financial or Digital Literacy (3 cr.)
FF Elective (Scientific Reasoning, Financial, and/or Digital Literacy) (1 cr)
Foreign Language (Generic) (3 cr)
Credits: 14

Second Semester

THEA 4200 Theatre Design Practicum (3 cr)
Social and Behavioral Sciences (FF) (3 cr)
ENGL 4995 - Senior Colloquium (3 cr)
ENGL 4640 - Modern & Contemporary Drama (3 cr)
Foreign Language (Generic) (3 cr)

Credits: 15

* All courses in **bold type** have been moved to a different semester of study but were previously included in this concentration.

* All courses in **red text** have been added to this concentration, but were existing courses in the University catalogue.

* All courses in **green text** are newly proposed courses and have been added to this concentration.

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

16a. AGRICULTURE: 1 Course Addition, 1 Curriculum update for Flight Foundations

1. Course Addition

Justification: The following course addition is the result of the development of the new M.S. degree program in the School of Agriculture, and the desire for more upperclassman to seek employment with the Cooperative Extension Service.

After consulting with School of Agriculture faculty and undergraduate students, it was determined that this course would be applicable to both undergraduate and graduate students. Currently, AGED 4300 is being taught spring semesters and includes both 4-H programming and FFA development and management – more specifically the course highlights 4-H and FFA from an agent and high school teacher perspective.

It is proposed that the FFA content be pulled out of AGED 4300 and insert more information of 4-H and Agriculture and Natural Resources (ANR) program planning, implementation and evaluation. There is also a proposed research and/or program development component requirement for graduate students. This is highlighted in the syllabus.

FFA is already being offered to students (AGED 2120) interested in teaching agriscience education at the middle and/or high school level. This course is taught every fall semester and is open to any student in the School of Agriculture.

This proposed course modification will in no way impact the Agriculture Education and Communication (AGEC) concentration in the School of Agriculture, nor will it impact students scheduled to complete apprentice teaching.

Effective Date: Fall 2026

Financial Impact: None at the university level. None at the school level.

2. Course prerequisite modifications:

Starting fall semester 2026, students must meet a prerequisite of full admissions to the Teacher Education program at TN Tech before enrolling in AGED 4871, AGED 4872, AGED 4881, AGED 4882, AGED 4900 and AGED 4925. This is fully justified because each course is directly connected to apprentice teaching.

Justification: The following addition/modification is the result of a joint effort between the College of Agriculture and Human Ecology, and the College of Education and Human Science at TN Tech.

3. Flight Foundation Curriculum Changes:

Communications	9 credits
Scientific Reasoning	8 credits
Humanities and Cultural Expression	6 credits
Historical Foundations	6 credits
Social and Behavioral Sciences	6 credits
Quantitative Reasoning and Analysis	3 credits (MATH 1530 or MATH 1710)
Financial or Digital Literacy	3 credits (HEC 3011)

Effective Date For All Changes: Fall 2026

Financial Impact: None at the university level. None at the school level.

Agricultural Education & Communication (AEC) - 2026-2027

Fall Freshman

ENGL 1010	3
AGR 1020	1
HIST 2010	3
AGRN 1100	3
AGRN 1110	1
FF Flexible Elective	1
	12

Spring Freshman

ENGL 1020	3
ANS 1200	3
ANS 1210	1
BIOL 1123 OR 2310	4
MATH 1530 OR 1710	3
HIST 2020	3
	17

Fall Sophomore

ENGL 2130, 2235, or 2330	3
AGED 2120	3
AGBE 2100	3
ECON 2010 or 2020, or PSY 1030 or SOC 1010	3
AGR 2022	1
Humanities/Cultural Expression	3
	16

Spring Sophomore

AGRN 2000	3
COMM 2025 or PC 2500	3
Humanities/Cultural Expression	3
AGET 2110 & 2115 or AGET 3110 & 3115	3
PSY 1030 or ECON 2020	3
	15

Fall Junior

AGR 3000	3
JOUR 3350 or AGHT 3410	3
Upper Division Ag Elective	3
JOUR 2200 or ANS 2110	3

Spring Junior

JOUR 2220 or AGHT 4420	3
AGED 4200 or BMGT 3720	3
PC 3500 or AGED 4950	3
AGED 4300	3

PSY 2210 or Elective	3	FOED 3010 (Licensure only)	3
Financial or Digital Literacy	3		
	18		12-15

Fall Senior

AGET 4220 or Upper Div. Ag Elec.	2-3
AGET 4225 or JOUR 3420	1-3
SPED 3000 or COMM 2090	3
AGED 4110 or COMM 3620	3
AGR 4500	1
AGED 4873 (Licensure only)	3
Upper Division Elective (Ag Comm)	3
	13-16

Spring Senior

AGED 4925 (Lic. Only) or AGCM 4920	2-3
AGED 4900 (Lic. Only) or JOUR 3480	3-10
JOUR 3470 or JOUR 3500	3
AGCM 4850	4
Upper Div. Ag. Elective	3
Elective (Ag. Comm. Only)	0-1
	12-17

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

16b. Agriculture: 1 Program Delivery Mode Change

This proposal requests approval to add a fully online delivery option for the Agribusiness Management Concentration, Bachelor of Science in Agriculture (BSAG) at Tennessee Tech University. The existing on-ground program will remain and continue. The online delivery option will follow the same curriculum, academic standards, and learning outcomes as the existing on-ground program. Offering a fully online format will expand access to students who are unable to physically attend classes on campus, including working professionals, transfer students, and students in rural areas.

A comprehensive reviewing of the online courses currently offered by TTU shows that most Flight Foundation courses, together with some other required courses for the Agribusiness Management Concentration are delivered online in spring, summer, and/or fall semesters. The School of Agriculture also has a plan for online delivery of other required courses related to the concentration. The proposed online option aligns with the university's strategic goals of enhancing access to higher education through the growth of online programs, supporting flexible learning opportunities and increasing enrollment in academic programs.

Effective Date: Fall 2026

Financial Impact: None

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

16c. AGRICULTURE AND HUMAN ECOLOGY: 1 Curriculum Update for Flight Foundations

Curriculum Changes in the Animal Science Industries Concentration for Flight Foundations

Justification and Financial Impact:

These changes align with university wide updates of curriculum.

All of these curriculum changes have no financial impact and are effective Fall 2026 for incoming freshmen.

Curriculum Changes in the Animal Science Industries Concentration Core Courses

From: Five core agriculture courses and labs (ANS 1200 and 1210, AGRN 1100 and 1110, AGRN 2400 and 2415, AGBE 2100, and AGET 2110 and 2115 or AGET 3110 and 3115)

TO: Choose three from AGRN 1100, AGRN 2400, AGBE 2100, or AGET 2110 and 2115 or AGET 3110 and 3115.

Justification and Financial Impact:

These curriculum changes introduce flexibility into the animal science degree program, allowing students 3 available credits for electives and 6 for upper division Ag Electives. This change streamlines the animal science degree plan to allow more focus on animal science or industry-specific course work.

All of these curriculum changes have no financial impact and are effective Fall 2026 for incoming freshmen.

Curriculum Changes in the Animal Science Industries Concentration Courses

From: BIOL 3200 or BIOL 3230

TO: BIOL 3000:4000 or WFS 3000:4000

Justification and Financial Impact:

This curriculum change increases flexibility in upper division sciences, allowing students to select courses that align more closely with their interests or career goals.

Financial Impact: This curriculum changes will have no financial impact and will be effective Fall 2026.

Curriculum Changes in the Animal Science Industries Concentration Courses

From: 9 credit hours of upper division Ag Electives

TO: ANS 3330 – Meat Dairy and Poultry Products and 6 credit hours of upper division Ag Electives

Justification and Financial Impact:

This course is in the catalog and was already available as an upper division Ag Elective option and will now be a formal part of the curriculum.

This curriculum changes will have no financial impact and will be effective Fall 2026.

Curriculum Changes in the Animal Science Industries Concentration Courses

See attached degree map.

Student ID: _____
 Student Name: _____
 Adviser Name: _____

Catalog: 2025-2026 Undergraduate Catalog
 Program: Animal Science, Animal Science Industries Concentration,
 B.S.

Minimum Credits Required: _____

Animal Science – Animal Science Industries Concentration, B.S.

Curriculum

Freshman Year

First Semester

Course Name	Credit
AGR 1020 - Connections to Agriculture	Credit: 1.
ANS 1200 – Introductory Animal Science	Credit: 3.
ANS 1210 – Animal Science Laboratory Corequisite: ANS 1200 unless credit for ANS 1200 has previously been earned.	Credit: 1.
BIOL 1123 – General Biology II	Credit: 4.
ENGL 1010 - English Composition I	Credit: 3.
Select One:	
Course Name	
MATH 1730 - College Algebra	Credit: 3.
OR MATH 1530 - Introductory Statistics	Credit: 3.
OR MATH 1630 - Finite Mathematics	Credit: 3.
OR MATH 1720 – Precalculus Trigonometry	Credit: 3.
OR MATH 1830 - Applied Calculus Prerequisite: ACT Math score of 25 or above and three years of high school mathematics, including algebra and geometry; or, special permission of the Mathematics Department; or, C or better in MATH 1130 or MATH 1710 or equivalent	Credit: 3.
OR MATH 1845 – Technical Calculus	Credit: 3.
OR MATH 1904 – Extended Calculus	Credit: 3.
Total: 15	

Second Semester

Course Name	Credit
ANS 2020 - Livestock Management Prerequisite: ANS 1200 and ANS 1210.	Credit: 3.
Select Two:	
Course Name	
AGRN 1100 - Plant Science	Credit: 3.
OR AGBE – Econ of Agriculture	Credit: 3.
OR AGRN 2400 – Soil Science	Credit: 3.
OR AGET 3110 – Natural Resource Systems	Credit: 2.
AND corequisite AGET 3115 – Natural Resource Systems Lab	Credit 1.
ENGL 1020 - English Composition II Prerequisite: ENGL 1010.	Credit: 3.
AGET 1600 – Practical Applications in Agriculture	Credits 3.

Total: 15	
Sophomore Year	
First Semester	
Course Name	Credit
CHEM 1010 – Introductory Chemistry OR CHEM 1110 – General Chemistry I	Credit: 4.
Select One:	
Course Name	
AGRN 1100 - Plant Science	Credit: 3.
OR AGBE – Econ of Agriculture	Credit: 3.
OR AGRN 2400 – Soil Science	Credit: 3.
OR AGET 2110 – Ag Engr Tech	Credit: 2.
AND corequisite AGET 2115 – Ag Engr Tech Lab	Credit 1.
HIST 2010 - Early United States History	Credit: 3.
AGR 2022 - Professionalism in Agriculture	Credit: 1.
COMM 2025 - Fundamentals of Communication or	Credit: 3.
OR PC 2500 - Communicating in the Professions Prerequisite: ENGL 1020 or concurrent enrollment in ENGL 1020.	Credit: 3.
ANS 2110 – Livestock Evaluation	Credit 3.
Total: 17	
Second Semester	
Course Name	Credit
HIST 2020 - Modern United States History	Credit: 3.
Social/Behavioral Science Elective	Credit: 3.
Humanities and Cultural Expression (Course Set)	Credit: 3.
ANS 3130 – Animal Breeding	Credit 3.
CHEM 1020 – Introductory Chemistry II OR CHEM 1120 – General Chemistry II	Credit: 4.
Total: 16	
Junior Year	
First Semester	
Course Name	Credit
CHEM 3005 – Elementary Organic	Credit 4.
ANS 3015 - Animal Nutrition	Credit 3.
BIOL 3000:4000 OR WFS 3000:4000	Credit 4.
Humanities and Cultural Expression (Course Set)	Credit: 3.
ANS 3140 - Reproduction in Farm Animals	Credit 3.
Total: 17	
Second Semester	
Course Name	Credit
Social/Behavioral Science Elective	Credit: 3.
ANS 3020 – Feeds and Feeding	Credit 3.
ANS 3150 – Common Diseases and Parasites	Credit 3.
ANS 3130 – Meat, Dairy and Poultry Products	Credit 3.
Financial and Digital Literacy	Credit 3.
Total: 15	
Senior Year	

First Semester	
Course Name	Credit
AGR 3000 – Leadership and Service OR AGR 3200 – Study Abroad	Credit: 3.
OR AGR 3250 – Introduction to Research and corequisite AGR 3275	Credit 2.
AND AGR 3275 – Practical Appl. In Research	Credit 1.
4000-Level ANS Production Course	Credit: 3.
Elective Credit	Credit 3.
Total: 12	
•	
Second Semester	
Course Name	Credit
Upper Division Ag Elective Credits	Credits 3.
AGBE 3220 – Data Acquisition and Computer Analysis in Agribusiness	Credit 3.
4000-Level ANS Production Course	Credit: 3.
AGRN 4130 – Forage Crops Production and Management	Credit 3.
AGR 4500 - Senior Seminar Prerequisite: Senior standing.	Credit: 1.
Total: 13	
Note:	
<p><i>Motion to approve: Julie Baker</i> <i>Second: Allan Mills</i> <i>Vote: Motion Carried</i></p>	

16d. Agriculture and Human Ecology: 1 Curriculum Change for Flight Foundations

Curriculum Changes in the Pre-Veterinary Sciences Concentration for Flight Foundations

Summary:

Quantitative Reasoning and Analysis

From: MATH 1710 or 1530

TO: MATH 1530, 1630, 1710, 1720, 1830, 1845, or 1904)

Humanities and Cultural Expression

From: 9 credits

TO: 6 credits

Financial and Digital Literacy

From: 0 credits

TO: 3 credits

Justification and Financial Impact:

These changes align with university wide updates of curriculum.

All of these curriculum changes have no financial impact and are effective Fall 2026 for incoming freshmen.

Curriculum Changes in the Pre-Veterinary Sciences Concentration Core Courses

From: Five core agriculture courses and labs (ANS 1200 and 1210, AGRN 1100 and 1110, AGRN 2400 and 2415, AGBE 2100, and AGET 2110 and 2115 or AGET 3110 and 3115)

TO: Choose two from AGRN 1100, AGRN 2400, AGBE 2100, or AGET 2110 and 2115 or AGET 3110 and 3115.

Justification and Financial Impact:

These curriculum changes introduce much needed flexibility into the Pre-Vet degree program, allowing students 7 available credits for electives. This will allow students who are applying to veterinary schools out of state that may have different course requirements to take those courses within their degree program, so their financial aid is not affected.

All of these curriculum changes have no financial impact and are effective Fall 2026 for incoming freshmen.

Curriculum Changes in the Pre-Veterinary Sciences Concentration Courses

From: ANS 3130 or BIOL 3810

TO: BIOL 3810

Justification and Financial Impact:

This curriculum change eliminates ANS 3130 Animal Breeds and Breeding from the curriculum as an option for Genetics credit. Most veterinary schools require Genetics, and few accept Breeds and Breeding as a substitute; this change provides clarity for students without requiring them to take an unneeded course.

This curriculum change will have **no financial impact and will be effective Fall 2026**

Student ID: _____
 Student Name: _____
 Adviser Name: _____

Catalog: 2025-2026 Undergraduate Catalog
 Program: Animal Science, Pre-Veterinary Science Concentration,
 B.S.

Minimum Credits Required: _____

Animal Science - Pre-Veterinary Science Concentration, B.S.

Curriculum

Freshman Year

First Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 1020 - Connections to Agriculture	Credit: 1.			
ANS 1200 – Introductory Animal Science	Credit: 3.			
ANS 1210 – Animal Science Laboratory Corequisite: ANS 1200 unless credit for ANS 1200 has previously been earned.	Credit: 1.			
BIOL 1113 – General Biology I	Credit: 4.			
CHEM 1110 - General Chemistry I	Credit: 4.			
ENGL 1010 - English Composition I	Credit: 3.			
Total: 16				

Second Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
ANS 2020 - Livestock Management Prerequisite: ANS 1200 and ANS 1210.	Credit: 3.			
Select One:				
Course Name				
AGRN 1100 - Plant Science	Credit: 3.			
OR AGBE 2100– Econ of Agriculture	Credit: 3.			
OR AGRN 2400 – Soil Science	Credit: 3.			
OR AGET 3110 – Natural Resource Systems	Credit: 2.			
AND corequisite AGET 3115 – Natural Resource Systems Lab	Credit 1.			
CHEM 1120 - General Chemistry II Prerequisite: CHEM 1110 with a grade of C or better	Credit: 4.			
ENGL 1020 - English Composition II Prerequisite: ENGL 1010.	Credit: 3.			
Select One:				
Course Name				
MATH 1730 - College Algebra	Credit: 3.			
OR MATH 1530 - Introductory Statistics	Credit: 3.			
OR MATH 1630 - Finite Mathematics	Credit: 3.			
OR MATH 1720 – Precalculus Trigonometry	Credit: 3.			
OR MATH 1830 - Applied Calculus Prerequisite: ACT Math score of 25 or above and three years of high school mathematics, including algebra and geometry; or, special permission of the Mathematics Department; or, C or better in MATH 1130 or MATH 1710 or equivalent	Credit: 3.			
OR MATH 1845 – Technical Calculus	Credit: 3.			
OR MATH 1904 – Extended Calculus	Credit: 3.			
TOTAL 16				

Sophomore Year				
First Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
CHEM 3010 - Organic Chemistry I Prerequisite: CHEM 1120 with a grade of C or better.	Credit: 4.			
Select One:				
Course Name				
AGRN 1100 - Plant Science	Credit: 3.			
OR AGBE – Econ of Agriculture	Credit: 3.			
OR AGRN 2400 – Soil Science	Credit: 3.			
OR AGET 2110 – Ag Engr Tech	Credit: 2.			
AND corequisite AGET 2115 – Ag Engr Tech Lab	Credit 1.			
HIST 2010 - Early United States History	Credit: 3.			
AGR 2022 - Professionalism in Agriculture	Credit: 1.			
BIOL 1123 – General Biology II	Credit: 4.			
Total: 15				
Second Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
HIST 2020 - Modern United States History	Credit: 3.			
COMM 2025 - Fundamentals of Communication or OR PC 2500 - Communicating in the Professions Prerequisite: ENGL 1020 or concurrent enrollment in ENGL 1020.	Credit: 3. Credit: 3.			
Humanities and Cultural Expression (Course Set)	Credit: 3.			
BIOL 3140 - Cellular Biology Prerequisite: BIOL 1123	Credit: 4.			
CHEM 3020 - Organic Chemistry II Prerequisite: CHEM 3010 with a grade of C or better	Credit: 4.			
Total: 17				
Junior Year				
First Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
Select One:				
MATH 1710 - College Algebra	Credit: 3.			
OR MATH 1530 - Introductory Statistics	Credit: 3.			
OR MATH 1630 - Finite Mathematics	Credit: 3.			
OR MATH 1720 – Precalculus Trigonometry	Credit: 3.			
OR MATH 1830 - Applied Calculus Prerequisite: ACT Math score of 25 or above and three years of high school mathematics, including algebra and geometry; or, special permission of the Mathematics Department; or, C or better in MATH 1130 or MATH 1710 or equivalent	Credit: 3.			
OR MATH 1845 – Technical Calculus	Credit: 3.			
OR MATH 1904 – Extended Calculus	Credit: 3.			
OR AGET 1600 – Practical Applications in Agriculture	Credit: 3.			
ANS 3330 - Anatomy and Physiology of Livestock Animals	Credit: 3.			
Humanities and Cultural Expression (Course Set)	Credit: 3.			

PHYS 2010 - Algebra-based Physics I Prerequisite: Background knowledge of high school Algebra and Geometry	Credit: 4.			
ANS 3140 - Reproduction in Farm Animals	Credit 3.			
Total: 16				
Second Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
BIOL 3810 – General Genetics Prerequisite: BIOL 1113 and 1123	Credits 4.			
ANS 3150 - Common Diseases and Parasites of Domestic Animals	Credit: 3.			
PHYS 2020 - Algebra-based Physics II Prerequisite: PHYS 2010.	Credit: 4			
Social/Behavioral Science Elective	Credit: 3.			
Total: 14				
Senior Year				
First Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
Social/Behavioral Science Elective	Credit: 3.			
4000-Level ANS Production Course	Credit: 3.			
ANS 3015 - Animal Nutrition	Credit 3.			
CHEM 4610 (5610) - General Biochemistry I Prerequisite: CHEM 3010 and CHEM 3020, or consent of instructor.	Credit: 3.			
Total: 12				
Second Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
Elective Credits	Credits 4.			
Upper Division Elective Credits	Credits 3.			
Financial and Digital Literacy	Credit 3.			
CHEM 4620 (5620) - General Biochemistry II Prerequisite: CHEM 4610 (5610).	Credit: 3.			
AGR 4500 - Senior Seminar Prerequisite: Senior standing.	Credit: 1.			
Total: 14				
Note:				
Notes:				

16e. AGRICULTURE – 1 CURRICULUM CHANGE FOR FLIGHT FOUNDATIONS

Agribusiness Management:

We propose changes to the AGBE curriculum outlined in the attached AGBE curriculum comparison and AGBE degree map. These proposed changes aim to modernize the AGBE curriculum so that it is relevant to the current agribusiness environment and comparable with the agribusiness curriculum offered at other institutions. This updated curriculum will better prepare our agribusiness students for the job market, providing valuable quantitative, programming, and presentation skills for the modern workforce.

Furthermore, this curriculum is available in a hybrid learning model, with all courses able to be taught both in person and online. These curriculum changes seek to better serve the needs of the program, the School of Agriculture, and the university by increasing the appeal and thus enrollment in the AGBE program. Furthermore, we propose curriculum updates to align with university-wide changes to general education requirements, aligning with Flight Foundations initiatives. Major changes include segmented blocks as follows: AGBE Core, AGBE Electives, and Business Electives. This provides students with flexibility to choose courses that best suit their career goals.

A. Course Additions:

AGBE 3050: International Trade in Agriculture (3 Credits)

Justification: We propose this course to better align the agribusiness program with the curriculum of comparable institutions. This course offers students a view of international trade and international business for agricultural commodities in general. This course also provides an upper-level elective in the School of Agriculture available to all students in the school, requiring only AGBE 2100G Econ of Agriculture as a prerequisite, which is already required for many programs in the department.

Course Description: This course examines the economic principles and global dynamics that influence international trade in agricultural products. Students will apply trade theories to agricultural markets, analyze the effects of policies such as tariffs, quotas, and subsidies, and evaluate global trade patterns and institutions that shape agricultural trade. Emphasis is placed on understanding exchange rate movements and their impacts on agricultural competitiveness, as well as developing evidence-based recommendations related to agricultural trade policy and market strategies.

AGBE 4400 Supply Chain Management in Agriculture (3 Credits)

Justification: We propose this course to better align the agribusiness program with the curriculum of comparable institutions. This course examines the design, coordination, and management of agricultural supply chains from input suppliers to final consumers. This course will prepare students with broader industrial career options.

Course Description: This course examines the design, coordination, and management of agricultural supply chains from input suppliers to final consumers. Students will evaluate tradeoffs among cost, responsiveness, efficiency, and risk while analyzing real-world agribusiness cases. Emphasis is placed on operational decision-making, network design, sourcing, and resilience in agricultural systems, supported by practical tools such as Excel for forecasting and inventory analysis. By the end of the course, students will be able to develop and justify strategic recommendations to improve the performance and competitiveness of agribusiness supply chains.

B. Course Changes

From: AGBE 4110 Ag Futures, Marketing (3 Credits)

To: AGBE 4110 Agricultural Prices, Futures, and Options (3 Credits)

Justification Name change to better align with broader course goals while still studying agricultural futures this course also studies spot prices and options

From AGBE 4130 Ag Policy (3 Credits)

To AGBE 4130 Agricultural and Food Policy (3 Credits)

Justification Name change to better align with broader course goals while still studying agricultural policy. The course also studies policies related to food manufacturing and nutrition, which is beyond the scope of purely agricultural policy.

Prerequisite change AGBE 4030 Agribusiness Management (3 Credits)

From AGBE 2100 - Econ of Agriculture, & AGBE 3400 - Ag Finance

To AGBE 2100 - Econ of Agriculture

Justification: The prerequisite requirement for this course is proposed to be revised from two prerequisite courses (AGBE 2100 - Econ of Agriculture, & AGBE 3400 - Ag. Finance) to one prerequisite course (AGBE 2100 - Econ of Agriculture). This change will improve student access and scheduling flexibility while maintaining academic standards and course rigor.

Prerequisite change: AGBE 4130 Agricultural and Food Policy (3 Credits)

From: AGBE 2100 - Econ of Agriculture, & AGBE 3100 - Ag. Marketing

To: AGBE 2100 - Econ of Agriculture

Justification The prerequisite requirement for this course is proposed to be revised from two prerequisite courses (AGBE 2100 - Econ of Agriculture, & AGBE 3100 - Ag. Marketing) to one prerequisite course (AGBE 2100 - Econ of Agriculture). This change will improve student access and scheduling flexibility while maintaining academic standards and course rigor.

Effective Date: Fall 2026

Financial Impact: Updating recruitment materials to reflect these changes

Tennessee Tech University
School of Agriculture
AGBE 3050
International Trade in
Agriculture

TR, 8:00-9:15, Oakley 104, 3 Credit Hours, Fall

Instructor Information

Instructor's Name: Dr. Lianqun Sun

Office: Oakley 142

Telephone Number: 931-372-3155

Office Hours: M/W 11-12, by appointment, open door

Campus Email: lsun@tntech.edu

Course Information

Prerequisites: AGBE 2100 – Econ of Agriculture

Texts and References (recommended):

Won W. Koo and P. Lynn Kennedy, *International Trade and Agriculture*, Published by Wiley © 2008
ISBN: 9780470759165

In addition to the required textbook, supplementary readings (including handouts, academic articles, web materials, and agricultural trade databases) will be assigned throughout the semester. Students are expected to complete all assigned readings, as exam questions and assignments may draw from both lecture material and supplemental readings.

Course Welcome and Description

This course examines the economic principles and global dynamics that influence international trade in agricultural products. Students will apply trade theories to agricultural markets, analyze the effects of policies such as tariffs, quotas, and subsidies, and evaluate global trade patterns and institutions that shape agricultural trade. Emphasis is placed on understanding exchange rate movements and their impacts on agricultural competitiveness, as well as developing evidence-based recommendations related to agricultural trade policy and market strategies.

Course Objectives/Student Learning Outcomes

By the end of this course, students will be able to:

- Acquire fundamental international trade theories and apply them to agriculture.
- Analyze the effects of trade policies (tariffs, quotas, and subsidies) on agriculture.
- Evaluate global agricultural trade patterns and the role of institutions such as the WTO and regional trade agreements.
- Interpret exchange rate movements and assess their impact on agricultural trade flows.
- Develop evidence-based recommendations regarding agricultural trade policy and

Reviewed and Revised 2026

market strategies using economic reasoning.

Major Teaching Methods

This course combines in-class lectures, guided discussions, assignments, and policy case analyses. A final group project to analyze a current agricultural trade issue and present their findings in the final week (more instructions will be provided). Daily lecture topics, assignments, and exam dates are subject to change should unforeseen circumstances alter course delivery.

Special Instructional Platform/Materials

iLearn

Course Schedule

The instructor reserves the right to change the schedule at any time.

Week	Chapter(s)	Topic	Assignment / Activity	Exam
1	Ch. 1	Introduction to Agricultural Trade & Global Food Systems	Form project groups	
2	Ch. 2	Comparative Advantage & Gains from Trade	Assignment 1 Released (Trade Theory Exercise)	
3	Ch. 3	Trade Models & Agricultural Applications	Assignment 1 Due	
4	Ch. 4	Tariffs & Import Quotas	Assignment 2 Released (Policy Analysis)	
5	Ch. 5	Export Subsidies & Domestic Support	Assignment 2 Due	
6	Ch. 6	Exchange Rates & Agricultural Trade	In-class data interpretation activity	
7	Review	Review of Trade Theory & Policy	Exam Review	
8	—			Exam 1
9	Ch. 7	Regional Trade Agreements & WTO	Assignment 3 Released (Trade Agreement Case)	
10	Ch. 8	Agricultural Trade Institutions & Negotiations	Assignment 3 Due	
11	Ch. 9	Trade & Economic Development	Project Proposal Due	
12	Ch. 10	Trade Disputes & Policy Conflicts	Assignment 4 Released (Current Trade Issue Brief)	
13	Supplemental	Current Issues in Agricultural Trade	Assignment 4 Due	
14	Integration	Policy Evaluation & Future of Ag Trade	Exam Review	
15	—	Final Group Presentations	Final Group Project Due	Exam 2

Course Breakdown

Gradings will be given upon class attendance, assignments, exams, and the final group project.

Attendance 10%

Assignment 35%

Exams 30%

Project 25%

Grading and Evaluation Procedures

Reviewed and Revised 2026

Grading Scale

Letter Grade	Grade Range
A	89.6 – 100%
B	79.6 – 89.5%
C	69.6 – 79.5%
D	59.6 – 69.5%
F	59.5% and below

Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and the key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding violations of academic integrity. All students are required to read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are allowed to be used for specific assignments or within set parameters, as designated by the instructor.

To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

To indicate the use of a Generative AI resource, a student should include the following statement in their assignments: "The author(s) acknowledge the utilization of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was employed in the following manner(s) within this assignment [e.g., brainstorming, grammatical correction, citation, specific section of the assignment]."

[Include Generative AI Use syllabus statement from the options listed on the [Center for Innovation in Teaching and Learning website](#) in accordance with [University Policy 220](#): Instructional and Assignment Use of Artificial Intelligence.]

Use of technology in the classroom: Computers and tablets may only be used to enhance your classroom experience; you are welcome to Google what is being discussed or take notes on an iPad. However, you may NOT text, call or check your Facebook status in class, this is distracting you and other students from following the material. Student(s) who do not comply with this policy will be asked to leave the class session and marked absent, NO EXCEPTIONS.

Communication through email: When you need to contact me through email, do so in a proper respectful way. Do not send me one-liner emails that look like a text message; I delete these directly. This is how you write an email that I will read:

Good morning, Dr. Sun,

My name is XXX, I am in your AGBE 3430 class. I have a question regarding the material you covered in last Monday's class. I would like to set up an appointment to discuss the material in more depth. Please let me know of a convenient time for you.

With kind regards,

Student Name

Class Participation

Assignments and Related Policy

ALL LATE ASSIGNMENTS WILL NOT BE ACCEPTED!!!

In the case of an official university-excused absence, documentation will be required, and the late penalty may be waived. University excused absences include illness of the student or a dependent family member, death of an immediate family member, required participation in legal proceedings, required military duties, participation in an authorized university activity, religious holidays, and mandatory interviews that cannot be rescheduled.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

Tutoring

The university provides free tutoring to all Tennessee Tech students through the Learning Center within the Volpe Library. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Counseling and Health Services

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Emergency Preparedness Protocols

Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#)..

Tennessee Tech University
School of Agriculture
AGBE 4030
Agribusiness Management
TR, 8:00-9:15, Oakley 104, 3 Credit Hours, Spring

Instructor Information

Instructor's Name: Lianqun Sun

Office: Oakley 142

Telephone Number: 931-372-3155

Office Hours: M/W 11-12, by appointment, open door

Campus Email: lsun@tntech.edu

Course Information

Prerequisites: AGBE 2100 – Econ of Agriculture

Texts and References (recommended):

Beierlein, J. G., Jenner, F., Schneeberger, K. C., & Osburn, D. D. (2014). *Principles of agribusiness management* (6th ed.). Waveland Press.

Barry, P. J., & Ellinger, P. N. (2011). *Financial management in agriculture* (7th ed.). Pearson Prentice Hall.

Laudon, K. C., Laudon, J. P., Traver, C.G. (2024). *Management Information Systems: Managing the digital firm* (18th ed.). Pearson.

Course Welcome and Description

Welcome to AGBE 4030– Agribusiness Management. In this course, we will explore the major components of business planning, including strategic, financial, marketing, and human resource planning, and learn how they guide the success of an agribusiness. The class will incorporate guest speakers, real-world scenarios, case studies, and hands-on Excel practice to help you apply concepts to practical management situations. By the end of the course, you will have a stronger understanding of how agribusiness firms plan, manage, and compete in today's dynamic marketplace.

Course Objectives/Student Learning Outcomes

By the end of this course, students will be able to:

- Understand core management concepts and the decision-making process in agribusiness firms.
- Evaluate financial performance using budgets, break-even analysis, ratios, and investment tools.
- Analyze risk and manage key resources such as capital, land, labor, and machinery.
- Apply customer relationship management principles in agribusiness markets.

- Understand e-commerce and digital marketing strategies used in modern agricultural businesses.
- Use basic human resource management concepts to support effective team and workforce planning.

Major Teaching Methods

In-class lecture, assignments, in-person exams, and poster presentations. Daily lecture topics, assignments, and exam dates are subject to change should unforeseen circumstances alter course delivery. There is a final group project in the form of research poster, will present at the 2027 Research & Creative Inquiry Day.

Special Instructional Platform/Materials

iLearn

Course Schedule

The instructor reserves the right to change the schedule at any time.

Week	Topics	Chapter	Assignment	Module
1	Syllabus			
2	Agribusiness Manager	1,2		1
3	Planning, stay competitive	5,6	1	
4	Forecasting, budgeting	7,8		
5	Racing to serve customers	3,4	2	
6	Organizing for success	9,10		2
7	Operations-production	11,12	3	
8	Operations-finance	13,14		
9	Operations-Capital, poster abstract	15,16	4	
Mid-term exam				
10	Human resource management	17,18		3
11	Customer Relationship Management (CRM)	MIS-9	5	
Good Friday				
12	E-commerce: digital market	MIS-10		4
13	E-commerce: digital market, poster print	MIS-10	6	
14	Global business, poster presentation	MIS-2,15		
15	Last week of class			

Course Breakdown

Gradings will be given upon class attendance, assignments, exams, and final poster (group project).

Attendance	10%
Assignment	50%
Exams	15%
Poster	25%

Grading and Evaluation Procedures

Grading Scale

Letter Grade	Grade Range
A	89.6 – 100%
B	79.6 – 89.5%
C	69.6 – 79.5%
D	59.6 – 69.5%
F	59.5% and below

Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and the key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding violations of academic integrity. All students are required to read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are allowed to be used for specific assignments or within set parameters, as designated by the instructor.

To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

To indicate the use of a Generative AI resource, a student should include the following statement in their assignments: "The author(s) acknowledge the utilization of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was employed in the following manner(s) within this assignment [e.g., brainstorming, grammatical correction, citation, specific section of the assignment]."

[Include Generative AI Use syllabus statement from the options listed on the [Center for Innovation in Teaching and Learning website](#) in accordance with [University Policy 220: Instructional and Assignment Use of Artificial Intelligence](#).]

Use of technology in the classroom: Computers and tablets may only be used to enhance your classroom experience; you are welcome to Google for what is being discussed or take notes on an iPad. However, you may NOT text, call or check your Facebook status in class; this is distracting you and other students from following the material. Student(s) who do not comply with this policy will be asked to leave the class session and marked absent, NO EXCEPTIONS.

Communication through email: When you need to contact me through email, do so in a proper respectful way. Do not send me one-liner emails that look like a text message; I delete these directly. This is how you write an email that I will read:

Good morning, Dr. Sun,

My name is XXX, I am in your AGBE 3430 class. I have a question regarding the material you covered in last Monday's class. I would like to set up an appointment to discuss the material in more depth. Please let me know of a convenient time for you.

With kind regards,

Student Name

Class Participation

Assignments and Related Policy

ALL LATE ASSIGNMENTS WILL NOT BE ACCEPTED!!!

In the case of an official university-excused absence, documentation will be required, and the late penalty may be waived. University excused absences include illness of the student or a dependent family member, death of an immediate family member, required participation in legal proceedings, required military duties, participation in an authorized university activity, religious holidays, and mandatory interviews that cannot be rescheduled.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

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Emergency Preparedness Protocols

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Tennessee Tech University
School of Agriculture
AGBE 4110-001 Agricultural Prices, Futures,
and Options

Monday, Wednesday, and Friday, 8:00 AM- 8:50 AM, Oakley Hall 114, 3 credits,
Fall 2025

Instructor Information

Dr. Joshua J. Reed

Oakley Hall 140

jjreed@tntech.edu

Please email me with any questions and I will aim to get back to you within one business day.

Office Hours:

Monday 11:00-12:00

Tuesday 3:00-4:00

Friday 9:15-10:15

Course Information

Prerequisites: AGBE 2100

Texts and Resources:

There is no assigned textbook. I will periodically assign readings and other materials which will be accessible through iLearn.

Fundamentals of Futures and Options Markets, 9th edition, John C. Hull is a useful book, especially for learning more about financial futures and options, but its applications to agriculture are limited and it is NOT required for this course.

Course Welcome and Description

This course seeks to equip you with basic knowledge of agricultural prices and the mechanics of futures and options markets which are derived from them. This knowledge can be used to hedge against price fluctuations or to speculate on them. Both are valuable agribusiness skills.

Course Objectives/Student Learning Outcomes

Throughout this course we will use Microsoft Excel to complete a series of lab activities in class. Microsoft Excel is one of the most important tools of the modern workforce for organizing and analyzing data; understanding how to use it should be a goal of college graduates regardless of your future plans. In the first half of this course, we will review some basic statistic concepts including descriptive statistics, hypothesis testing, and linear regression. These methodologies will be specifically used in this course to understand how future prices can be predicted using both fundamental analysis and time-series analysis. However, these methodologies have a very broad utility beyond the scope of this course. In the second half of this course, we will seek to understand how predictions of future prices can be leveraged through futures and options of markets for financial gain.

Major Teaching Methods

Instruction will be in-person, with a series of labs to be completed after every class. Quizzes and homework will be assigned to be completed at home. A midterm exam will be completed during regular class time, and a final exam will be completed during the final exam period.

Special Instructional Platform/Materials

Please bring a laptop computer to every class, we will have daily lab assignments distributed through iLearn and completed using Microsoft Excel. Microsoft Office 365 is provided to all Tennessee Tech students [Get Microsoft Office 365 though TN Tech](#). Please ensure that your laptop has Microsoft Office installed on the machine, Excel Online does not have all the features that we will be using throughout this course.

Topics to be Covered

- Intro to course and review of basic statistics
 - Review of Basic Statistics
 - Review of regression estimation
- Fundamental Analysis (FA)
 - What determines prices?
 - Characteristics of agricultural commodity supply
 - Characteristics of agricultural commodity demand
 - Predicting grain supply using trend line analysis
- Time Series Analysis (TSA)
 - Estimating time series models
 - Incorporating seasonality in time series models

- Forecasting Production using Time Series Models
- Forecasting Price with Time Series Models
- Technical Analysis (TA)
 - Identifying trends using price charts
 - Identifying price trends using moving averages
 - Identifying price trends using relative strength index
- Introduction to agricultural futures contracts
 - Understanding contract specifications
 - Calculating payoffs from making futures trades
 - Hedging using futures contracts
 - Relationship between spot and futures prices
 - Relationship between future contracts with different expiration dates
 - Relationship between futures contracts for related commodities (spreads)
- Introduction to options on agricultural futures contracts
 - Basic definitions of calls and puts
 - Components of option valuation
 - Pricing options using Black's Formula
 - Hedging with options with emphasis on the collar strategy

Course Schedule

(subject to change, please use iLearn to keep track of due dates)

Module	Topics	Quiz/Homework
1	Review of Statistics	Quiz 1
2	Conditional Average and Regression, Fundamental Analysis	Quiz 2
3	Regression Assumptions and Output	Quiz 3, HW 1
4	Elasticity and Grain Supply Predictions	Quiz 4, HW 2
5	Time Series Analysis and Forecasting	Quiz 5, HW 3
6	Time Series Analysis	Quiz 6, HW 4
7	Review and Midterm Exam	
8	Future Market	
9	Future Market	Quiz 7
10	Future Market	Quiz 8
11	Future Market	Quiz 9
12	Options	Quiz 10, HW 5
13	Options	
14	Option Pricing	Quiz 11, HW 6
15	Option Pricing and Final Exam Review	

Grading and Evaluation Procedures

Grading Scale

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	60 and below

Note: My policy is to round all grades to two decimal points and then up to the next whole number, e.g. an 89.01 would be rounded up to 90 and thus would receive an A.

Grading Weighting

Grade is calculated from the following categories:

Item	%
Labs	15%
iLearn Quizzes	15%
Homework	25%
Midterm Exam	15%
Final Exam	30%

Grade Review Policy

While every effort is made to ensure accurate grading, occasional errors may occur. If you believe an assignment or exam has been graded incorrectly, I encourage you to reach out and make a case for review. For brief clarifications, feel free to contact me via email or speak with

me before or after class. For more detailed concerns, please visit during office hours or schedule a meeting so we can discuss the issue thoroughly.

Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and the key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding violations of academic integrity. All students are required to read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Attendance Policy

My general policy on attendance is that I would like you to attend class whenever possible, you are after all the one paying for it and should be trusted to come to class. Classes will begin precisely when scheduled. If you are late, please avoid disrupting the class. I do not directly factor attendance into your final grade, nor do I need to excuse absences. Instead, a lab will be due one week after every class; these labs should be able to be completed in class and are much easier to complete in class. If you cannot attend class for any reason, simply complete the lab and submit it within one week of the class. There is no need to contact me or acquire a doctor's note.

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Labs (15% of grade)

Labs are assigned in every class period and are due one week after they are assigned, before the start of class the next week. Labs will generally take the form of an Excel document, although it is possible that they will take other forms. Labs are graded out of one point; you will receive the full point for complete but not necessarily correct labs. Complete means that every question is answered in full, and every section is filled in with an appropriate attempt. Anything less than a complete submission will receive half a point. Any non-submission will receive 0 points. While working with other students is encouraged, you should complete and submit your own lab file and should not share that file with any other student. You may use generative AI to assist with Excel programming, but short answers should be in your own words (generative AI would probably do a bad job of these anyway).

iLearn Quizzes (15% of grade)

iLearn quizzes are intended to be completed at home and generally take the form of a series of multiple choice/short answer questions. iLearn will be set up to allow for unlimited submissions

on these quizzes. I encourage you to strive for. 100% on every quiz, as they should be easy points.

Homework (25% of grade)

6 homework assignments will be assigned throughout the semester. These are Excel files and contain both calculations and short answers. You may use generative AI to assist with Excel programming, but short answers should be in your own words (generative AI would probably do a bad job of these anyway).

Midterm Exam (15% of grade)

The Midterm Exam will be completed in class around the 7th week of the semester. The exam will be submitted in the form of a Microsoft Excel file and will contain 2 parts. The first part will be a series of multiple-choice questions. The second part will be an Excel based activity along with a series of short answer questions. Exams are open note; you may use all materials available on iLearn, any paper or digital notes you have taken, and any completed assignments or labs from the class. You may not use any other materials on the internet, including generative AI.

Final Exam (30% of grade)

The Final Exam will be completed in class during the final exam period. The exam will be submitted in the form of a Microsoft Excel file and will contain 2 parts. The first part will be a series of multiple-choice questions. The second part will be an Excel based activity along with a series of short answer questions. This exam will be comprehensive although it will mostly focus on the second half of the semester. It will also be longer, approximately twice the length of the Midterm Exam. Exams are open note; you may use all materials available on iLearn, any paper or digital notes you have taken, and any completed assignments or labs from the class. You may not use any other materials on the internet, including generative AI.

Extra Credit (up to 6 points)

We will participate in the CME Group University Trading Challenge, beginning after the Midterm exam. This challenge is a simulation of real-life trading on futures and options markets on one of the largest and most important trading platforms. Extra credit points are added directly to your final grade after all other grade calculations are complete, e.g. if your final grade in the course is 84.4 and you received all 6 possible extra credit points, your final grade would increase to 90.4 and your final grade would increase from a B to an A, they are very powerful. All extra credit opportunities must be completed by the date and time of the final exam.

- Complete all courses to learn the basics of trading for +1 extra credit point.
- Profit more than \$5,000 for +1 extra credit point
- Make at least 20 trades for +1 extra credit point
- The person who has the highest profit will receive for +2 extra credit points
- 2nd and 3rd place will receive for +1 extra credit point

Assignments and Related Policy

Assignments are due at the day and time that they are assigned on iLearn. However, I will generally accept late submissions for full credit if they are submitted before I start grading them. This is entirely at my discretion and if you notice that you have a late assignment, I would recommend completing it as soon as possible as I may start grading immediately after the posted due date. Assignments which are not submitted before I start grading may be accepted for partial

credit, I would recommend sending me an email and explaining your reasoning as to why the assignment is late.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are allowed to be used for homework, quizzes, extra credit, and labs as are all other online resources. However, generative AI should not be used to answer short answer questions, where I would like to have your individual thoughts. Use of Generative AI resources is not allowed on exams.

To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

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Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#).

Tennessee Tech University
School of Agriculture
AGBE 4130-Agricultural and Food Policy
Monday and Wednesday, 4:00-5:15 PM, Oakley 124, 3 credits, Spring 2026

Instructor Information

Dr. Joshua J. Reed

Oakley Hall 140

jjreed@tntech.edu

Please email me with any questions and I will aim to get back to you within one business day.

Office Hours:

Monday 2:45-3:45

Tuesday 12:00-1:00

Wednesday 1:00-2:00

and by appointment

Course Information

Prerequisite: AGBE 2100 – Economics of Agriculture

Texts and Resources

Food Policy in the United States

3rd edition

Parke Wilde

ISBN 9781032487007

[Directly from Publisher](#)

[From TN Tech Bookstore](#)

Supplementary Materials Available on iLearn

Course Welcome and Description

This course offers a broad introduction to food and agricultural policies in the United States. Food and agricultural policies encompass laws, regulations, decisions, and actions by

governments, industry, and other institutions that influence food production, distribution, and consumption. The course will introduce students to the underlying issues or problems that food policies are trying to address, as well as how food policy is made and evaluated.

Course Objectives/Student Learning Outcomes

A. Upon successful completion of the course, students will demonstrate an understanding of (i) specific food and agricultural policies and (ii) the underlying issues and problems that the policies target.

B. Students will demonstrate an understanding of, and put into practice, four tools for policy analysis:

- Institutional knowledge and history,
- Economics
- Contemporary data sources
- Analytical models to evaluate policies.

Major Teaching Methods

In-person Monday and Wednesday 4:00-5:15 PM

Special Instructional Platform/Materials

I recommend a notebook for keeping notes and staying on track with the lecture.

Laptops and other electronic devices are allowed, but please ensure that they do not become a distraction to yourself or others.

Topics to be Covered

- An overview of the U.S. food system
- Crop subsidies, insurance, and other agricultural production policies
- Farm labor and immigration policies
- Agro-environmental policies
- Tariffs, quotas, and other agricultural trade policies
- Food manufacturing, antitrust, and agricultural marketing policies
- Organic agriculture: national organic standards
- Animal welfare standards
- Food safety policies
- Food labeling and advertising

- ❑ Dietary guidance
- ❑ Food insecurity and the Supplemental Nutrition Assistance Program (SNAP)
- ❑ Child nutrition programs
- ❑ Food deserts and policies affecting access to healthy food
- ❑ Food waste: Sell-by dates and other policies.

Course Schedule

Module	Textbook Chapter	Topic
0		Syllabus
1	1	Making food policy in the United States
2	2	Agriculture
3	3	Food production and the environment
4	4	Food and agricultural trade
5	5	Food manufacturing
6	6	Food retailing and restaurants
7	7	Food safety
8	8	Dietary guidance and health
9	9	Food labeling and advertising
10	10	Hunger and food insecurity
11	11	Nutrition assistance programs for children
12	12	Looking forward
Final Presentation 3:30 - 5:30 Monday, May 4 th		

Grading and Evaluation Procedures

Grading Scale

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Note: I round all grades up to the nearest whole point e.g. 89.01 would be rounded up to 90 and receive an A

Assignments and Gradable Events:

<i>% of Grade</i>	<i>Assignment/ Gradable Event</i>	<i>Description</i>
25	Weekly reading assignments.	Students will be assessed weekly to make sure they have read class materials and are prepared for class discussion. These assessments will be due before Monday's class.
20	Class attendance and participation.	Students will be regularly assessed on attendance and the quality of class participation.
30	Homework assignments. (Four)	The instructor will provide links to publicly available data and specific questions for students to answer and analyze with the help of the data and other background readings.
25	Final Presentation	The final will be a short presentation and essay on a policy of your choice.

Course Policies

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Attendance Policy

Students are expected to attend every class in person or have absences excused for full attendance credit. To have absences excused, send me an email with your reasoning to jjreed@tntech.edu.

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Students must be in attendance in order to participate. In a class of this size, I expect to hear from each student at least once for full participation credit. Sometimes all students will be assigned a short presentation from the reading.

Assignments and Related Policy

Weekly reading assignments worth 25% of your grade are due every week on iLearn before Monday's class. Late submissions will not be accepted.

Four homework assignments will be due throughout the semester and worth 30% of your grade. I will accept late submissions for full credit if they are submitted before I start grading them. This is entirely at my discretion and if you notice that you have a late assignment. These will include short essays and quantitative/data questions. They are fairly involved, not great assignments to start the day before they are due.

Final Presentation

Students will deliver a final presentation and short (1-2 page) policy brief analyzing a U.S. food or agricultural policy of their choosing. Topics must focus on one specific policy or program and be framed as a clear policy question. Presentations must clearly state the policy question, summarize the policy or program, identify key stakeholders and distributional impacts, draw on at least two credible external sources, and conclude with a defensible policy recommendation.

Final presentations will be delivered 3:30 - 5:30 Monday, May 4. Presentations will be strictly limited to 10 minutes per student. Students may choose to work in groups, groups will have the combined time-limit of all group members i.e. groups of 2 will have a time limit of 20 minutes, groups of 3 will have a time-limit of 30 minutes, etc.

Slides and a short (1-2 page) policy brief will be due at 3:00 Monday, May 4th. Even if students work in groups, each student will deliver an independent policy brief.

The combined grade for the final presentation and policy brief will be worth 25% of your final grade.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are allowed to be used for homework assignments, weekly reading assignments, and to aid with final presentation. However, they should not be used to replace academic work on these topics. Furthermore, poorly written, 'AI Slop' will receive appropriate grades.

To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

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Proper citation guidelines can be found on the [CITL website](#).

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Tennessee Tech University
School of Agriculture
AGBE 4400
Supply Chain Management in Agriculture

TR, 8:00-9:15, Oakley 104, 3 Credit Hours, Spring

Instructor Information

Instructor's Name: Lianqun Sun

Office: Oakley 142

Telephone Number: 931-372-3155

Office Hours: M/W 11-12, by appointment, open door

Campus Email: lsun@tntech.edu

Course Information

Prerequisites: AGBE 2100-Econ of Agriculture

Texts and References: Chopra, S., & Meindl, P. (2023). *Supply chain management: Strategy, planning, and operation* (8th ed.). Pearson.

Course Welcome and Description

This course examines the design, coordination, and management of agricultural supply chains from input suppliers to final consumers. Students will evaluate tradeoffs among cost, responsiveness, efficiency, and risk while analyzing real-world agribusiness cases. Emphasis is placed on operational decision-making, network design, sourcing, and resilience in agricultural systems, supported by practical tools such as Excel for forecasting and inventory analysis. By the end of the course, students will be able to develop and justify strategic recommendations to improve the performance and competitiveness of agribusiness supply chains.

Course Objectives/Student Learning Outcomes

By the end of this course, students will be able to:

- Analyze agricultural supply chain structures and evaluate tradeoffs among cost, responsiveness, efficiency, and risk across agrifood systems.
- Design supply chain networks appropriate for different agricultural products (perishable vs. storable commodities) and competitive strategies.
- Apply forecasting and inventory management tools (e.g., EOQ, safety stock, reorder points) using Excel to support operational decision-making.
- Evaluate sourcing, contracting, and coordination mechanisms to improve alignment and performance within agribusiness supply chains.
- Assess supply chain risks and disruption management strategies in agricultural markets, including seasonality, weather, and market volatility.
- Develop and communicate strategic recommendations that enhance the efficiency, resilience, and competitiveness of agribusiness supply chains.

Major Teaching Methods

This course utilizes a combination of in-class lectures, case discussions, applied problem-solving exercises, Excel-based operational analyses, assignments, and in-person examinations. Students will complete a final group project in the form of a research poster, which will be presented at the 2027 Research & Creative Inquiry Day. Daily lecture topics, assignments, and exam dates are subject to change should unforeseen circumstances alter course delivery.

Special Instructional Platform/Materials: iLearn

Course Schedule

The instructor reserves the right to change the schedule at any time.

Week	Module	Chapter(s)	Topic	Assignment / Activity	Exam
1	1	Ch. 1	Introduction to Agricultural Supply Chains	Form project groups	
2	2	Ch. 2	Supply Chain Strategy & Strategic Fit	Assignment 1 Released (Supply Chain Mapping)	
3	3	Ch. 3	Supply Chain Drivers & Performance Metrics	Assignment 1 Due	
4	4	Ch. 7	Demand Forecasting in Agriculture	Assignment 2 Released (Forecasting Exercise – Excel)	
5	5	Ch. 8	Aggregate Planning & Capacity Decisions	Assignment 2 Due	
6	6	Ch. 11	Inventory Management I (EOQ, Cycle Inventory)	In-Class Excel Exercise	
7	7	Ch. 12	Inventory Management II (Safety Stock, Service Levels)	Exam 1 Review	
8	8	Review	Midterm Assessment		Exam 1
9	9	Ch. 14	Transportation & Network Design	Assignment 3 Released (Inventory & Transport Analysis)	
10	10	Ch. 15	Sourcing & Procurement Decisions	Assignment 3 Due	
11	11	Ch. 10	Supply Chain Coordination & Bullwhip Effect	Project Proposal Due	
12	12	Ch. 16	Risk Management & Disruptions	Assignment 4 Released (Risk Case Analysis)	
13	13	Supplemental	Sustainability & Resilience in Agrifood Systems	Assignment 4 Due	
14	14	Integration	Strategic Alignment & System Design	Exam 2 Review	

15	15	Review	Course Integration & Presentations	Final Poster Presentation	Exam 2
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Course Breakdown

Gradings will be given upon class attendance, assignments, exams, and final poster (group project).

Component	Weight
Participation & Attendance	10%
Assignments	35%
Exams	30%
Poster (Group)	25%
Total	100%

Grading and Evaluation Procedures

Grading Scale

Letter Grade	Grade Range
A	89.6 – 100%
B	79.6 – 89.5%
C	69.6 – 79.5%
D	59.6 – 69.5%
F	59.5% and below

Course Policies

Student Academic Integrity Policy

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Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are allowed to be used for specific assignments or within set parameters, as designated by the instructor.

To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

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[Include Generative AI Use syllabus statement from the options listed on the [Center for Innovation in Teaching and Learning website](#) in accordance with [University Policy 220](#): Instructional and Assignment Use of Artificial Intelligence.]

Use of technology in the classroom: Computers and tablets may only be used to enhance your classroom experience; you are welcome to Google what is being discussed or take notes on an iPad. However, you may NOT text, call or check your Facebook status in class, this is distracting you and other students from following the material. Student(s) who do not comply with this policy will be asked to leave the class session and marked absent, NO EXCEPTIONS.

Communication through email: When you need to contact me through email, do so in a proper respectful way. Do not send me one-liner emails that look like a text message; I delete these directly. This is how you write an email that I will read:

Good morning Dr. Sun,

My name is XXX, I am in your AGBE 4400 class. I have a question regarding the material you covered in last Monday's class. I would like to set up an appointment to discuss the material in more depth. Please let me know of a convenient time for you.

With kind regards,

Student Name

Class Participation

Assignments and Related Policy

ALL LATE ASSIGNMENTS WILL NOT BE ACCEPTED!!!

In the case of an official university-excused absence, documentation will be required, and the late penalty may be waived. University excused absences include illness of the student or a dependent family member, death of an immediate family member, required participation in legal proceedings, required military duties, participation in an authorized university activity, religious holidays, and mandatory interviews that cannot be rescheduled.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning \(CITL\)](#) website or call 931-372-3675 for assistance.

Tutoring

The university provides free tutoring to all Tennessee Tech students through the Learning Center within the Volpe Library. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Counseling and Health Services

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Emergency Preparedness Protocols

Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#).

Student ID: _____
 Student Name: _____
 Adviser Name: _____

Catalog: 2026-2027 Undergraduate Catalog
 Program: Agribusiness Management Concentration,
 B.S.AG
 Minimum Credits Required: _____

Agribusiness Management Concentration, B.S. AG

Curriculum

Freshman Year (30 Cr. Hrs.)

First Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 1020 - Connections to Agriculture	Credit: 1.			
Communications: ENGL 1010	Credit: 3.			
AGRN 1100 - Plant Science	Credit: 3.			
Scientific Reasoning & Analysis (Course set)	Credit: 4.			
AGR 2022 - Professionalism in Agriculture	Credit: 1.			
Quantitative Reasoning & Analysis: MATH 1530 - Intro to Statistics	Credit: 3.			
Total	Credit: 15			

Second Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
ANS 1200 – Introductory Animal Science	Credit: 3.			
AGET 2110 – Ag Engr Tech	Credit: 2.			
AND AGET 2115 – Ag Engr Tech Lab (corequisite)	Credit: 1.			
Communications: ENGL 1020	Credit: 3.			
Humanities & Cultural Expression (Course set)	Credit: 3.			
Historical Foundations (Course Set)	Credit: 3.			
Total	Credit: 15			

Sophomore Year (31 Cr. Hrs.)

First Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
AGBE 2100 – Econ of Agriculture	Credit: 3.			
Flexible Elective	Credit: 4.			
Humanities & Cultural Expression (Course set)	Credit: 3.			
Historical Foundations (Course Set)	Credit: 3.			
Social & Behavioral Sciences: ECON 2010 – Principles of Microeconomics	Credit: 3.			
Total	Credit: 16			

Summer Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
AGBE 3950 – Agribusiness Internship	Credit: 3.			
Total	Credit: 3			

Second Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
ACCT 2110 – Principles of Accounting I	Credit: 3.			
Social & Behavioral Sciences: ECON 2020 – Principles of Macroeconomics	Credit: 3.			
Business Elective (Course Set)	Credit: 3.			
Financial & Digital Literacy (Course set)	Credit: 3.			
Communications (Course set)	Credit: 3.			
Total	Credit: 15.			

Junior Year (28 Cr. Hrs.)

First Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
AGRN 2400 – Soils	Credit: 3.			
AGBE Elective (Course Set)	Credit: 3.			
Business Elective (Course Set)	Credit: 3.			
AGBE 3400 – Agriculture Finance	Credit: 3.			
General Elective	Credit 1			
Total	Credit: 13.			

Second Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
AGBE 3220 – Data Acquisition & Computer Analysis	Credit: 3.			
ABGE 4130 – Agriculture & Food Policy	Credit: 3.			
AGR 3000 Leadership OR AGR 3200 Study Abroad	Credit: 3.			
Business Elective (Course Set)	Credit: 3.			
Upper Division Ag Elective (Course Set)	Credit: 3.			
Total	Credit: 15.			

Senior Year (28 Cr. Hrs.)

First Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
AGBE 3100 – Agriculture Marketing	Credit: 3.			
AGBE 4110 – Agricultural Prices, Futures, and Options	Credit: 3.			
General Electives	Credit: 3.			
AGBE Elective (Course Set)	Credit: 3.			
Upper Division Ag Elective (Course Set)	Credit: 3.			
Total	Credit: 15.			

Total: 15

Second Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 4500 – Senior Seminar	Credit: 1			
General Electives	Credit: 3.			
AGBE 4030 – Agribusiness Management	Credit: 3.			
Upper Division Ag Elective (Course Set)	Credit: 3.			
Upper Division Ag Elective (Course Set)	Credit: 3.			
Total	Credit: 13			

Notes:

SUBJ	Course #	Agriculture Core	24
AGR	1020	Connections to Agriculture	1
AGRN	1100	Plant Science	3
ANS	1200	Introductory Animal Science	3
AGBE	2100	Economics of Agriculture	3
AGRN	2400	Intro to Soils	3
AGET	2110	Ag Engineering Tech AND	
AGET	2115	Ag Engineering Tech Lab	
		OR	3
AGET	3110	Natural Resource Systems AND	
AGET	3115	Natural Resource Systems Lab	
AGR	2022	Professionalism	1
AGR	3000	Leadership	3
AGR	4500	Senior Seminar	1
AGR	3000	Leadership	
		OR	3
AGR	3200	Study Abroad	
SUBJ	Course #	AGBE Core	36
ACCT	2110	Principles of Accounting I	3
AGBE	3100	Agriculture Marketing	3
AGBE	3220	Data Acquisition & Computer Analysis	3
AGBE	3400	Agriculture Finance	3
AGBE	3950	Agribusiness Internship	3
AGBE	4030	Agribusiness Management	3
AGBE	4110	Agriculture Prices, Futures, & Options	3
AGBE	4130	Agriculture & Food Policy	3
AGXX	VAR	Upper Division Ag Electives (Course Set)	12
SUBJ	Course #	AGBE Electives*	6
AGBE	4220	Agribusiness Statistics	3
AGBE	3050	International Trade in Agriculture	3
AGBE	4120	Natural Resource Economics	3
AGBE	4400	Supply Chain Management in Agriculture	3
* - Choose 2 courses for 6 credit hours			
SUBJ	Course #	Business Electives	9
ACCT	2120	Principles of Accounting II	3
LAW	2810	Business Legal Env & Ethics	3
FIN	3210	Principles of Managerial Finance	3
MKT	3400	Principles of Marketing	3
BMGT	3510	Management & Organizational Behavior	3
BMGT	3630	Human Resource Management	3
* - Choose any 3 courses for 9 credit hours			
SUBJ	Course #	General Electives	7
XXXX	VAR	Can be any course	

16f. AGRICULTURE: 1 CURRICULUM CHANGE FOR FLIGHT FOUNDATIONS

I. CURRICULUM CHANGE: Revise the general education (Flight Foundations) curriculum for the School of Agriculture concentrations (Agricultural Engineering Technology)

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	8
Financial and Digital Literacy	3
Total	41

II. JUSTIFICATION: These changes are consistent with the new university Flight Foundations general education core requirements. Keeping the Scientific Reasoning category at 8 hours, while reducing the Humanities and Cultural Expression category to 6 hours and defining the new Financial & Digital Literacy category at the minimum of 3 hours, allows AGET and AGMG majors to earn general education credit for the introductory science courses that are requirements for their major and prevents students from needing to take an additional course to complete their general education requirements.

III. EFFECTIVE DATE: Fall 2026

IV. FINANCIAL IMPACT: None

Student ID:	Catalog: 2026-2027 Undergraduate Catalog			
Student Name:	Program: Agriculture, Agricultural Engineering Technology B.S.AG			
Adviser Name:	Minimum Credits Required:			
Agriculture, Agricultural Engineering Technology Concentration, B.S.AG.				
Curriculum				
Freshman Year (32 Cr. Hrs.)				
First Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 1020 – Connections to Agriculture	Credit: 1.			
AGRN 1100 - Plant Science	Credit: 3.			
AGRN 1100 - Plant Science Laboratory	Credit: 1			
Communications: ENGL 1010	Credit: 3.			
Scientific Reasoning (Course Set)	Credit: 4.			
Quantitative Reasoning & Analysis: (Course Set)	Credit: 3.			
Total	Credit: 15			
Second Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
AGET 1600 - Pract Apps in Ag Systems	Credit: 3.			
ANS 1200 – Introductory Animal Science	Credit: 3.			
ANS 1200 – Intro Animal Science Lab	Credit: 1.			
Financial and Digital Literacy (Course Set)	Credit: 3.			
Scientific Reasoning (Course Set)	Credit: 4.			
Communications: ENGL 1020	Credit: 3.			
Total	Credit: 17			
Sophomore Year (29 Cr. Hrs.)				
First Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
AGET 2110 – Ag Engr Tech	Credit: 2.			
AND AGET 2115 – Ag Engr Tech Lab (corequisite)	Credit: 1.			
AGBE 2100 – Econ of Agriculture	Credit: 3.			
ENGL2130 - Topics in American Literature OR ENGL2235 - Topics in British Literature OR ENGL2330 - Topics in World Literature	Credit: 3.			
Social & Behavioral Sciences (Course Set)	Credit: 3.			
Historical Foundations (Course Set)	Credit: 3.			
Total	Credit: 15			
Second Semester				

Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 2022 - Professionalism in Agriculture	Credit: 1.			
AGRN 2400 – Introduction to Soils	Credit: 3.			
AGRN 2415 – Soils Lab	Credit: 1.			
Social & Behavioral Sciences: (Course Set)	Credit: 3.			
Humanities and Cultural Expression (Course Set)	Credit: 3.			
Communications (Course set)	Credit: 3.			
Total	Credit: 14.			

Junior Year (32 Cr. Hrs.)

First Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
ACCT 3720 – Survey of Accounting	Credit: 3.			
AGET 3540 - Fund/GIS & GPS in AG & Nat Rsr	Credit: 3.			
AGET 3620 – Computer Aided Design in Agriculture	Credit: 3.			
Upper Division Ag Elective (Course Set)	Credit: 3.			
Science Elective ¹	Credit: 4.			
Total	Credit: 16.			

Second Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
AGET 3110 – Natural Resource System	Credit: 2.			
AND AGET 3115 – Natural Resource Systems Lab (corequisite)	Credit: 1.			
AGET 3320 – Small Power Equipment	Credit: 2.			
AND AGET 3325 – Small Power Equipment Lab (corequisite)	Credit: 1.			
Upper Division Ag Elective (Course Set)	Credit: 3.			
Historical Foundations (Course Set)	Credit: 3.			
Science Elective ¹	Credit: 4.			
Total	Credit: 16.			

Senior Year (27 Cr. Hrs.)

First Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
AGET 3520 – Agricultural Spatial Technology	Credit: 3.			
AGET 4620 – Agricultural Structures	Credit: 3.			
AGR 3000 – Leadership and Service OR AGR 3200 – Study Abroad Exploration	Credit: 3.			
Upper Division Ag Elective (Course Set)	Credit: 3.			
BMGT 3510 - Mgmt/Organizational Behavior	Credit: 3.			
Total	Credit: 15.			

Second Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
AGET 4220 – Agri Machinery/Tractors	Credit: 2.			
AND AGET 4225 - Agri Machinery/Tractors Lab (corequisite)	Credit: 1.			
AGET 4720 – Agricultural Processing	Credit: 3.			
AGET 4850 – Engr Tech Design-Agriculture	Credit: 3.			

Upper Division AGET Elective (Course Set)	Credit: 3.			
	Total	Credit: 12		
1: Select from ASTR, BIOL, CHEM, GEOL, or PHYS (any level).				

16g1. AGRICULTURE: 1 CURRICULUM CHANGE FOR FLIGHT FOUNDATIONS:

Soil and Water Conservation Concentration

Course Additions: None

- A. **Course Deletions:** None
- C. **Course Changes:** None
- D. **Course Updates (By Degree)**

Category	BS - AGRI
	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	8
Financial and Digital Literacy	3
Total	41

Justification: These changes align with university updates of curriculum to Flight Foundations.

Effective Date: Fall 2026

Financial Impact: These curriculum changes have no financial impact

Student ID: _____	Catalog: 2026-2027 Undergraduate Catalog Program: Agriculture, Agribusiness Management Concentration, B.S.AG. Minimum Credits Required: 120
Student Name: _____	
Advisor Name: _____	

Agriculture, Soil & Water Conservation Concentration, B.S.AG.

Curriculum

Freshman Year (33 Cr. Hr.)

First Semester (16 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 1020 - Connections to Agriculture	Credit: 1.			
AGRN 1100 - Plant Science	Credit: 3.			
AGRN 1110 - Plant Science Lab	Credit: 1			
Scientific Reasoning: CHEM 1010 - Introductory Chemistry I	Credit: 4.			
Communications: ENGL 1010 - English Composition I	Credit: 3.			
Quantitative Analysis: MATH 1530 - Introductory Statistics	Credit: 3.			
Total: 15				

Second Semester (17 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
AGET 1600 - Practical Applications in Agricultural Systems	Credit: 3.			
ANS 1200 - Introductory Animal Science	Credit: 3.			
ANS 1210 - Introductory Animal Science Laboratory Corequisite: ANS 1200 unless credit for ANS 1200 has previously been earned.	Credit: 1.			
Humanities and Cultural Expression (Course Set)	Credit 3.			
Elective	Credit: 4.			
Communication Elective: ENGL 1010 - English Composition I	Credit: 3.			
Total: 17				

Sophomore Year (33 Cr. Hr.)

First Semester (17 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
GEOL 1040 – Physical Geology	Credit: 4.			
AGRN 2400 – Intro to Soils	Credit: 3.			
AGRN 2415 – Intro to Soils Lab (not a co-requisite)	Credit: 1			
Historical Foundations: HIST 2010 - Early United States History	Credit: 3.			
Upper Division Ag Elective ¹	Credit: 3.			
Digital and Financial Literacy Elective: DS 2810 - Computer Applications in Business	Credit: 3.			
Total: 17				

Second Semester (16 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
GEOL 1045 – Earth Environment	Credit: 4.			
HIST 2020 - Modern United States History	Credit: 3.			
Social & Behavioral Science Elective (Course Set)	Credit: 3.			
AGBE 2100 - Economics of Agriculture	Credit: 3.			
AGET 2110 - Agricultural Engineering Technology Corequisite: AGET 2115.	Credit: 2.			
AGET 2115 - Agricultural Engineering Technology Laboratory Corequisite: AGET 2110.	Credit: 1.			
or				
AGET 3110 - Agricultural Engineering Technology Corequisite: AGET 3115.	Credit: 2.			
AGET 3115 - Agricultural Engineering Technology Laboratory Corequisite: AGET 3110.	Credit: 1.			
Total: 16				

Junior Year (28 Cr. Hr.)

First Semester (15 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
Communication Elective (Course Set)	Credit: 3			
BIOL 4840 - Limnology	Credit: 3			
BIOL 3130 – General Ecology	Credit: 4.			
Social & Behavioral Science Elective (Course Set)	Credit: 3.			
Upper Division Ag Elective ¹	Credit: 3.			
Total: 16				

Second Semester (12 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 2022 - Professionalism	Credit: 1.			
GEOL 3200 – Water Resources	Credit: 3.			
General Elective	Credit: 3.			
Humanities and Cultural Expression (Course Set)	Credit: 3.			
Upper Division Ag Elective ²	Credit: 3.			
Total: 13				

Senior Year (26 Cr. Hr.)

First Semester (13 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 3000 - Leadership and Service	Credit: 3.			
AGET 3540 – Fundamentals of GIS & GPS in Ag & Natural Resources	Credit: 3.			
GEOL 4150 - Geomorphology	Credit: 4.			
General Electives	Credit: 3.			
Total: 13				

Second Semester (13 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 4500 – Senior Seminar	Credit: 1.			
AGRN 4220 – Environmental Soil Chemistry	Credit: 3.			
AGRN 4230 – Soil Classification	Credit: 3.			
General Elective	Credit: 3.			
Upper Division Ag Elective ¹	Credit: 3.			
Total: 13				

Note:

1	Can be from any Agriculture discipline. (AGBE, AGED, AGET, AGHE, AGHT, AGRN and ANS)
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Notes:

16g2. AGRICULTURE: 1 CURRICULUM CHANGE FOR FLIGHT FOUNDATIONS

Agricultural Science Management Concentration

Course Additions: None

- A. **Course Deletions:** None
- C. **Course Changes:** None
- D. **Course Updates (By Degree)**

Category	BS - AGRI
	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	8
Financial and Digital Literacy	3
Total	41

Justification: These changes align with university updates of curriculum to Flight Foundations.

Effective Date: Fall 2026

Financial Impact: These curriculum changes have no financial impact

Student ID:	Catalog: 2026-2027 Undergraduate Catalog
Student Name:	Program: Agriculture, Agricultural Science and Management B.S.AG
Adviser Name:	Minimum Credits Required:
Agriculture, Agricultural Science and Management concentration	

Curriculum

Freshman Year (29 Cr. Hrs.)

First Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 1020 – Connections to Agriculture	Credit: 1.			
AGRN 1100 - Plant Science	Credit: 3.			
AGRN 1100 - Plant Science Laboratory	Credit: 1			
Communications: ENGL 1010	Credit: 3.			
Scientific Reasoning (Course Set)	Credit: 4.			
Quantitative Reasoning & Analysis: (Course Set)	Credit: 3.			
Total	Credit: 15			

Second Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
ANS 1200 – Introductory Animal Science	Credit: 3.			
ANS 1200 – Intro Animal Science Lab	Credit: 1.			
Humanities and Cultural Expression (Course Set)	Credit: 3.			
Scientific Reasoning (Course Set)	Credit: 4.			
Communications: ENGL 1020	Credit: 3.			
Total	Credit: 14			

Sophomore Year (30 Cr. Hrs.)

First Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
AGET 2110 – Ag Engr Tech AND AGET 2115 – Ag Engr Tech Lab (coreq) OR AGET 3110 – Natural Resource System AND AGET 3115 – Natural Resource Systems Lab (coreq)	Credit: 3.			
AGBE 2100 – Econ of Agriculture	Credit: 3.			
Communications (Course set)	Credit: 3.			
Social & Behavioral Sciences (Course Set)	Credit: 3.			
Historical Foundations (Course Set)	Credit: 3.			
Total	Credit: 15			

Second Semester

Course Name	Credit	Term Taken	Grade	Gen Ed
AGRN 2400 – Introduction to Soils	Credit: 3.			
ENGL 2130 - Topics in American Literature OR ENGL 2235 - Topics in British Literature OR ENGL 2330 - Topics in World Literature	Credit: 3.			
Social & Behavioral Sciences: (Course Set)	Credit: 3.			
Financial and Digital Literacy (Course Set)	Credit: 3.			
Historical Foundations (Course Set)	Credit: 3.			
Total	Credit: 15.			
Junior Year (31 Cr. Hrs.)				
First Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 3000 - Leadership and Service OR AGED 3010 - Professional Leadership Dev OR AGR 3200 - Study Abroad Exploration	Credit: 3.			
Upper Division Primary Ag Concentration	Credit: 6.			
HEC 3011 – Consumer Economics	Credit: 3.			
AGR 3940 - Advanced Internship OR AGR 3950 - Advanced Internship OR AGR 3960 - Advanced Internship	Credit: 3.			
Total	Credit: 15.			
Second Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
AGET 1600 – Pract Apps in Ag Systems	Credit: 3.			
AGR 2022 - Professionalism in Agriculture	Credit: 1.			
DS 2810 - Computer Applications/Business	Credit: 3.			
Upper Division Primary Ag Concentration	Credit: 3.			
Upper Division Free Electives	Credit: 6.			
Total	Credit: 16.			
Senior Year (30 Cr. Hrs.)				
First Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
Upper Division Ag Elective (Course Set)	Credit: 6.			
Upper Division Primary Ag Concentration	Credit: 6.			
Upper Division Free Electives	Credit: 3.			
Total	Credit: 15.			
Second Semester				
Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 4920 – Senior Problem	Credit: 3.			
Upper Division Ag Elective (Course Set)	Credit: 6.			
Upper Division Free Electives	Credit: 6.			
Total	Credit: 15			
Notes:				

16g3. AGRICULTURE: 2 CURRICULUM CHANGES

Horticulture, Landscape and Turfgrass Management concentration

Poultry Science concentration

Course Additions: None

- A. **Course Deletions:** None
- C. **Course Changes:** None
- D. **Course Updates (By Degree)**

Category	BS - AGRI	
	Hours	
Quantitative Reasoning and Analysis	3	
Humanities and Cultural Expression	6	
Historical Foundations	6	
Social and Behavioral Sciences	6	
Communication	9	
Scientific Reasoning	8	
Financial and Digital Literacy	3	
Total	41	

Justification: These changes align with university updates of curriculum to Flight Foundations.

Effective Date: Fall 2026

Financial Impact: These curriculum changes have no financial impact

Student ID: _____	Catalog: 2026-2027 Undergraduate Catalog Program: Agriculture, Horticulture, Landscape, & Turfgrass Management Concentration, B.S.AG Minimum Credits Required: 120
Student Name: _____	
Advisor Name: _____	

Agriculture, Horticulture, Landscape, & Turfgrass Management Concentration, B.S.AG.

Curriculum

Freshman Year – 31 hours

First Semester (15 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 1020 - Connections to Agriculture	Credit: 1.			
AGRN 1100 - Plant Science	Credit: 3.			
AGRN 1110 - Plant Science Laboratory Corequisite: AGRN 1100 unless credit for AGRN 1100 has previously been earned.	Credit: 1.			
Scientific Reasoning: CHEM 1010 - Introductory Chemistry I or CHEM 1110 - General Chemistry I	Credit: 4.			
Communications: ENGL 1010 - English Composition I	Credit: 3.			
Quantitative Analysis: MATH 1530 - Introductory Statistics	Credit: 3.			
Total: 15				

Second Semester (16 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
AGET 1600 - Practical Applications in Agricultural Systems	Credit: 3.			
ANS 1200 - Introductory Animal Science	Credit: 3.			
ANS 1210 - Introductory Animal Science Laboratory Corequisite: ANS 1200 unless credit for ANS 1200 has previously been earned.	Credit: 1.			
Humanities and Cultural Expression (Course Set)	Credit 3.			
Social Behavioral Science	Credit 3			
Communication Elective (Course Set)	Credit: 3.			
Total: 16				

Sophomore Year – 32 hours

First Semester (17 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
BIOL 2310 - General Botany	Credit: 4.			
AGRN 2400 – Intro to Soils	Credit: 3.			
AGRN 2415 – Intro to Soils Lab (not a co-requisite)	Credit: 1			
Historical Foundations: HIST 2010 - Early United States History	Credit: 3.			
DS 2810 - Computer Applications in Business	Credit: 3.			
Elective	Credit 1.			
Total: 15				

Second Semester (15 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 2022 – Professionalism in Agriculture	Credit: 1.			
Historical Foundations: HIST 2020 - Modern United States History	Credit: 3.			
Social & Behavioral Science Elective (Course Set)	Credit: 3.			
AGBE 2100 - Economics of Agriculture	Credit: 3.			
AGET 2110 - Agricultural Engineering Technology Corequisite: AGET 2115.	Credit: 2.			
AGET 2115 - Agricultural Engineering Technology Laboratory Corequisite: AGET 2110.	Credit: 1.			
or				
AGET 3110 - Agricultural Engineering Technology Corequisite: AGET 3115.	Credit: 2.			
AGET 3115 - Agricultural Engineering Technology Laboratory Corequisite: AGET 3110.	Credit: 1.			
General Electives	Credit: 2			
Total: 15				

Junior Year – 27 hours

First Semester (15 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
Communication Elective (Course Set)	Credit: 3.			
Humanities and Cultural Expression (Course Set)	Credit: 3.			
AGHT 3410 – Plant Propagation	Credit: 3.			
AGHT 3450 Dendrology	Credit: 3.			
Upper Division Ag Elective ¹	Credit: 3.			
Total: 15				

Second Semester (12 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
AGET 3560 Turf Systems Irrigation	Credit: 2.			
AGET 3560 Turf Systems Irrigation Lab Corequisite: AGET 3560	Credit: 1.			
AGHT 3470 - Landscape Plant Materials	Credit: 3.			
Management Elective ³	Credit: 3.			
AGHT 3030 - Integrated Pest Management Prerequisite: AGRN 1100 & AGRN 1110 Plant Science & Lab	Credit: 3.			
Total: 12				

Senior Year – 30 hours

First Semester (14 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
HLTM Elective ²	Credit: 3.			
Upper Division Ag Elective ¹	Credit: 3.			
Upper Division Ag Elective ¹	Credit: 3.			
Management Elective ³	Credit: 3.			
Upper Division Ag Elective ¹	Credit: 3.			
Upper Division Ag Elective ¹	Credit: 3.			
Total: 18				

Second Semester (14 Cr. Hr.)

Course Name	Credit	Term Taken	Grade	Gen Ed
AGR 3000 - Leadership and Service	Credit: 3.			
HLTM Elective ²	Credit: 3.			
AGHT 4410 Nursery Management or AGHT 4220 Greenhouse Management	Credit: 3.			
AGR 4500 - Senior Seminar Prerequisite: Senior standing.	Credit: 1.			
General Electives	Credit: 4.			
Total: 14				

Note:

1	Can be from any Agriculture discipline. (AGBE, AGED, AGET, AGHE, AGHT, ANPS, AGRN and ANS)
2	Choose two courses (six hours) from the following: AGRN 3100, AGET 3320, AGET 3325, BIOL 3200, BIOL 4250, BIOL 4310, BIOL 4320
3	Choose two courses (six hours) from the following: ACCT 2110, BMGT 3510, BGMT 3630, FIN 3210, LAW 4720, MKT 3400, or MKT 4500.

Notes:

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Student ID: _____
 Student Name: _____
 Adviser Name: _____

Catalog: 2025-2026 Undergraduate Catalog
 Program: Animal Science, Animal Science Industries Concentration,
 B.S.
 Minimum Credits Required: _____

Animal Science – Poultry Science Concentration, B.S.

Curriculum

Freshman Year

First Semester

Course Name	Credit
AGR 1020 - Connections to Agriculture	Credit: 1.
ANS 1200 – Introductory Animal Science	Credit: 3.
ANS 1210 – Animal Science Laboratory Corequisite: ANS 1200 unless credit for ANS 1200 has previously been earned.	Credit: 1.
BIOL 1123 – General Biology II	Credit: 4.
ENGL 1010 - English Composition I	Credit: 3.
ANPS 1300- Introduction to Poultry Science	Credit: 3
Course Name	
Total: 15	

Second Semester

Course Name	Credit
Select One	
Course Name	
AGRN 1100 - Plant Science	Credit: 3.
OR AGBE – Econ of Agriculture	Credit: 3.
OR AGRN 2400 – Soil Science	Credit: 3.
OR AGET 3110 – Natural Resource Systems	Credit: 2.
AND corequisite AGET 3115 – Natural Resource Systems Lab	Credit 1.
ENGL 1020 - English Composition II Prerequisite: ENGL 1010.	Credit: 3.
AGET 1600 – Practical Applications in Agriculture	Credits 3.
MATH 1730 - College Algebra	Credit: 3.
OR MATH 1530 - Introductory Statistics	Credit: 3.
OR MATH 1630 - Finite Mathematics	Credit: 3.
OR MATH 1720 – Precalculus Trigonometry	Credit: 3.
OR MATH 1830 - Applied Calculus Prerequisite: ACT Math score of 25 or above and three years of high school mathematics, including algebra and geometry; or, special permission of the Mathematics Department; or, C or better in MATH 1130 or MATH 1710 or equivalent	Credit: 3.
OR MATH 1845 – Technical Calculus	Credit: 3.
OR MATH 1904 – Extended Calculus	Credit: 3.
HIST 2010 - Modern United States History	Credit: 3

Total: 15	
Sophomore Year	
First Semester	
Course Name	Credit
CHEM 1010 – Introductory Chemistry OR CHEM 1110 – General Chemistry I	Credit: 4.
Select One	
AGRN 1100 - Plant Science	Credit: 3.
OR AGBE – Econ of Agriculture	Credit: 3.
OR AGRN 2400 – Soil Science	Credit: 3.
OR AGET 2110 – Ag Engr Tech	Credit: 2.
AND corequisite AGET 2115 – Ag Engr Tech Lab	Credit 1.
ANPS 2010- Poultry Management Systems	Credit: 3.
COMM 2025 - Fundamentals of Communication or OR PC 2500 - Communicating in the Professions Prerequisite: ENGL 1020 or concurrent enrollment in ENGL 1020.	Credit: 3.
ANS 3330- Anatomy and Physiology of Livestock Animals	Credit 3.
Total: 16	
Second Semester	
Course Name	Credit
AGR 2022- Professionalism in Agriculture	Credit: 1
HIST 2020- Modern United States History	Credit: 3.
Social/Behavioral Science Elective	Credit: 3.
Humanities and Cultural Expression (Course Set)	Credit: 3.
CHEM 1020 – Introductory Chemistry II OR CHEM 1120 – General Chemistry II	Credit: 4.
Total: 14	
Junior Year	
First Semester	
Course Name	Credit
Select One	
AGRN 1100 - Plant Science	Credit: 3.
OR AGBE – Econ of Agriculture	Credit: 3.
OR AGRN 2400 – Soil Science	Credit: 3.
OR AGET 2110 – Ag Engr Tech	Credit: 2.
AND corequisite AGET 2115 – Ag Engr Tech Lab	Credit 1.
CHEM 3005 – Elementary Organic	Credit 4.
ANS 3015 - Animal Nutrition	Credit 3.
Humanities and Cultural Expression (Course Set)	Credit: 3.
ANS 3140 - Reproduction in Farm Animals	Credit 3.
Total: 16	
Second Semester	
Course Name	Credit
Social/Behavioral Science Elective	Credit: 3.
ANPS 3200- Applied Poultry Nutrition	Credit 3.
ANS 3150 – Common Diseases and Parasites	Credit 3.
ANS 3130 – Meat, Dairy and Poultry Products	Credit 3.
Financial and Digital Literacy	Credit 3.
Total: 15	

Senior Year	
First Semester	
Course Name	Credit
Select One	
AGR 3000 – Leadership and Service	Credit: 3.
OR AGR 3200 – Study Abroad	Credit: 3.
Select One	
AGR 3950- Internship	Credit: 3.
OR AGR 3250 – Introduction to Research and corequisite AGR 3275	Credit 2.
AND AGR 3275 – Practical Appl. In Research	Credit 1.
ANPS 3990- Experiential Learning in Poultry Science	Credit: 3.
Elective Credit	Credit 3.
Elective Credit	Credit: 3.
Total: 15	
Second Semester	
Course Name	Credit
Select One	
BIOL 3220- General Microbiology	Credit: 4.
OR BIOL 3230- Health Science Microbiology	Credit: 4
AGBE 3220 – Data Acquisition and Computer Analysis in Agribusiness	Credit 3.
ANS 4200- Poultry Production and Management	Credit: 3.
AGR 4500 - Senior Seminar Prerequisite: Senior standing.	Credit: 1.
ANPS 4020- Feed Manufacturing	Credit: 3.
Total: 14	
Note:	
Notes:	
<p><i>Motion to approve: Julie Baker</i> <i>Second: Allan Mills</i> <i>Vote: Motion Carried</i></p>	

17. HISTORY – 1 Curriculum change for Flight Foundations – BS in History

- I. COURSE ADDITIONS, DELETIONS AND CHANGES: None
- II. CURRICULUM CHANGE: Revise the general education (Flight Foundations) curriculum for the B.S. in History.

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	8
Financial and Digital Literacy	3
Total	41

Justification: This plan brings the History B.S. degree in line with the new Flight Foundations curriculum. In order to fit the Financial and Digital Literacy requirement, this proposed change reduces the number of hours for Humanities and Cultural Expression to 6, as allowed by the Flight Foundations requirements. Given the general goals and purpose of the History B.S degree and the availability of the History B.A. degree for our majors who wish to build a stronger focus in the humanities, this proposed plan for the Flight Foundations curriculum makes the most sense.

Effective Date: Fall 2026

Cost: None.

A degree map is attached.

17. cont. HISTORY – 1 curriculum change for Flight Foundations – BA in History

- I. COURSE ADDITIONS, DELETIONS AND CHANGES: None
- II. CURRICULUM CHANGE: Revise the general education (Flight Foundations) curriculum for the B.A. in History.

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	9
Historical Foundations	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	4
Financial and Digital Literacy	4
Total	41

Justification: The Flight Foundations curriculum provides flexibility in requiring 4-8 hours for Scientific Reasoning while also requiring the introduction of 3-4 hours for Financial and Digital Literacy. Given the general goals and purpose of the History B.A. degree, the availability of the History B.S. degree for our majors who wish to build a stronger focus in scientific reasoning, and our B.S. degree includes flexible hours for a requirement, this proposed plan for the Flight Foundations curriculum makes the most sense.

Effective Date: Fall 2026

Cost: None.

A degree map is attached.

Degree Map

CATALOG YEAR: 2026-2027

Degree: BA

MAJOR: History

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.		Course	Cr. Hrs.
FIRST YEAR				
Semester: Fall		Total Credit Hours: 15	Semester: Spring	
			Total Credit Hours: 15	
ENGL 1010 English Composition I	3		ENGL 1020 English Composition II	3
Foreign Language (Generic)	3		Foreign Language (Generic)	3
HIST 2010 Early United States History	3		HIST 2020 Modern United States History	3
Quantitative Reasoning (Course Set)	3		HIST 3410 Intro to Historical Methods	3
Social/Behavioral Sciences (Course Set)	3		Social/Behavioral Sciences (Course Set)	3
Course	Cr. Hrs.		Course	Cr. Hrs.
SOPHOMORE YEAR				
Semester: Fall		Total Credit Hours: 16	Semester: Spring	
			Total Credit Hours: 15-16	
Humanities and/or Fine Arts (Course Set)	3		COMM 2025 Fundamentals of Communication OR PC 2500 Communicating in the Profession	3
Foreign Language (Generic)	3		Foreign Language (Generic)	3
HIST 2210 Early Western Civilization OR HIST2320 Modern World History	3		HIST 2220 Modern Western Civilization OR HIST 2310 Early World History	3
Humanities and/or Fine Arts (Course Set)	3		Humanities and/or Fine Arts (Course Set)	3
Natural Sciences (Course Set)	4		Financial and Digital Literacy (Course Set)	4
Course	Cr. Hrs.		Course	Cr. Hrs.
JUNIOR YEAR				
Semester: Fall		Total Credit Hours: 15	Semester: Spring	
			Total Credit Hours: 15	
American History (Upper Division) (Generic)	3		CJ, POLS, SOC, SW, PHIL, RELS or PSY (Upper Division) (Generic)	3
European History (Upper Division) (Generic)	3		Elective or minor (Generic)	6
ENGL, JOUR, LING, SPCH, THEA, or WEBD (Upper Division) (Generic)	3		Race and Ethnicity in the U.S. (Upper Division) (Generic)	3
Elective or minor (Generic)	3		World History (Upper Division) (Generic)	3
Women and Gender Studies (Upper Division) (Generic)	3			
Course	Cr. Hrs.		Course	Cr. Hrs.
SENIOR YEAR				
Semester: Fall		Total Credit Hours: 15	Semester: Spring	
			Total Credit Hours: 13	
Electives or minor (Generic)	9		Electives or minor (Generic)	7
HIST4990 Senior Seminar	3		HIST (Upper Division) (Generic)	6
HIST (Upper Division) (Generic)	3			

Degree Map

CATALOG YEAR: 2026-2027

Degree: BS

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course sch general direction.

Course	Cr. Hrs.		Course
FIRST YEAR			
Semester: Fall		Total Credit Hours: 13	Semester: Spring
ENGL 1010 English Composition I	3		Elective credit (Generic)
HIST 2010 Early United States History	3		ENGL 1020 English Composition II
Quantitative Reasoning and Analysis (Course Set)	3		HIST 2020 Modern United States Histo
Natural Sciences (Course Set)	4		HIST 3410 Intro to Historical Methods
			Natural Sciences (Course Set)
Course	Cr. Hrs.		Course
SOPHOMORE YEAR			
Semester: Fall		Total Credit Hours: 15	Semester: Spring
COMM 2025 Fundamentals of Communication OR PC 2500 Communicating in the Profession	3		Financial and Digital Literacy (Course S
Foreign Language (Generic) OR MATH 1910 Calculus I	3, 4		Foreign Language (Generic) OR MATH
HIST 2210 Early Western Civilization OR HIST 2320 Modern World History	3		HIST 2220 Modern Western Civilization World History
Humanities and/or Fine Arts (Course Set)	3		Humanities and/or Fine Arts (Course S
Social/Behavioral Sciences (Course Set)	3		Social/Behavioral Sciences (Course Set
Course	Cr. Hrs.		Course
JUNIOR YEAR			
Semester: Fall		Total Credit Hours: 15-17	Semester: Spring
American History (Upper Division) (Generic)	3		World History (Upper Division) (Generi
European History (Upper Division) (Generic)	3		CJ, POLS, SOC, Sw, PHIL, RELS or PSY (U (Generic)
Foreign Language (Generic) OR MATH 2110 Calculus III	2-3, 4		ENGL, JOUR, LING, SPCH, THEA or WEB elective (Generic)
Minor (Generic)	3		Natural Sciences (Course Set)
Natural Sciences (Course Set)	4		Minor (Generic)
Course	Cr. Hrs.		Course
SENIOR YEAR			
Semester: Fall		Total Credit Hours: 15	Semester: Spring
HIST 4990 Senior Seminar OR HIST 4991 Senior Seminar OR HIST 4992 Senior Seminar OR HIST 4993 Senior Seminar OR HIST 4994 Senior Seminar OR HIST 4995 Senior Seminar OR HIST 4996 Senior Seminar OR HIST 4997 Senior Seminar OR HIST 4998 Senior Seminar or HIST 4999 Senior Seminar	3		HIST (Upper Division) elective
HIST (Upper Division) elective (Generic)	3		Minor (Upper Division) (Generic)
Minor (Upper Division) (Generic)	3		Elective credit (generic)

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

18. SOCIOLOGY AND POLITICAL SCIENCE – 1 NEW COURSE, 5 CURRICULUM CHANGES FOR FLIGHT FOUNDATIONS

I. Course Additions

ADD SOC/POLS 1001 Career Readiness in Soc/Pols

(1 lec. 1 cr.)

This course is designed to provide students with the opportunity to get an early jumpstart on preparing them for careers in their chosen field.

Justification: This course brings the department in line with university policy.

Financial Impact: None.

II. Course Deletions - NONE

III. Course Changes - NONE

IV. Curriculum Changes

A. Update the General Education Requirements in all Sociology & Political Science Concentrations (except LS): Political Science, Sociology, Criminology & Criminal Justice, Social Work. DELETE 4 hrs Scientific Reasoning; ADD 3 hrs Financial & Digital Literacy AND 1 Flexible Hour in Scientific Reasoning or Financial and Digital Literacy.

Category	Hours
Quantitative Reasoning & Analysis	3
Humanities & Cultural Expression	9
Historical Foundations	6
Social & Behavioral Sciences	6
Communication	9
Scientific Reasoning	4
Financial & Digital Literacy	3
Flexible Hour in Scientific Reasoning or Financial & Digital Literacy	1
Total	41

B. As DS 2810/CSC2570 have been approved as D/F Literacy FF courses, no change is needed. The POLS Legal Studies Flight Foundations chart is as follows:

Category	Hours
Quantitative Reasoning & Analysis	3
Humanities & Cultural Expression	6
Historical Foundations	6
Social & Behavioral Sciences	6
Communication	9
Scientific Reasoning	8
Financial & Digital Literacy	3
Total	41

Justification: These changes are consistent with the new university Flight Foundations general education core requirements. Changing the Scientific Reasoning category to 4 and defining the new Financial & Digital Literacy category at the minimum of 3 hours. This allows 1 flexible hour to be completed in either Scientific Reasoning or Digital and Financial Literacy.

Degree maps attached.

Financial Impact: NONE

Effective Date: FALL 2026

C. Adding the Career Readiness Course to the Curriculum

For ALL majors and concentrations in Sociology and Political Science

DELETE 1 hr of General Elective

ADD SOC/POLS 1001 (1 hr)

Justification: This course brings the department in line with university policy.

Financial Impact: NONE

Effective Date: FALL 2026

Tennessee Tech University
Sociology & Political Science
Career Readiness in Sociology & Political
Science

SOC/POLS 1001

Instructor Information

Instructor's Name:

Office:

Office Hours:

Telephone Number:

Campus Email:

Course Information

Prerequisites: None

Texts and Resources:

Course Welcome and Description

This course is designed to provide students with the opportunity to get an early jumpstart on preparing them for careers in their chosen field

Course Objectives/Student Learning Outcomes

- Identify their personality, interests, values, skills, and success factors and how they can be associated with future careers.
- Develop short, mid-range, and long-term career goals
- Identify the core skills that employers value in the workplace
- Create a resume
- Learn how to identify potential job opportunities and conduct a job search
- Apply the STAR-L of interviewing

Major Teaching Methods

The expected course outcomes will be realized through a variety of instructional strategies to complement students' life experiences. Those strategies include, but are not limited to, the following: lecture, writing assignments, demonstrations, online discussions, inquiry, critical thinking exercises, scenario exercises and experimental learning activities.

Special Instructional Platform/Materials: N/A

Topics to be Covered

Career and Self-Development

Communication

Critical Thinking

Leadership Skills

Professionalism

Course Schedule

Grading and Evaluation Procedures

Grading criteria for all assignments is listed in the individual assignments posted on ilearn. All feedback for missed points will be provided in the comment section for the assignment. In the case of physical assignments, such as exams, written feedback will be given.

Grading Scale [if applicable]

Table 1: Overview of grade range

Letter Grade	Grade Range
A	90-100
B	80-89
C	70-79
D	60-69
F	59 and below

Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and the key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding violations of academic integrity. All students are required to read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Attendance Policy

Class attendance is important. When you miss class, you miss important learning opportunities. While attendance is not required, it will be taken at the beginning of class to better assist students throughout the semester. Additionally, punctuality is important. Please make every effort to arrive at class on time. If you know in advance that you will need to miss class, please contact the professor ahead of time to discuss what you will miss.

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

While participation is not required for your grade, students will be completing assignments and tasks in class that are graded.

Assignments and Related Policy

You are responsible for all readings, assignments, and other material for this class. All work should be turned in on time. Late work is accepted, but with a penalty of a **2 point** deduction for each day it is late. I will NOT accept **work past three days late**.

Instructional and Assignment Use of Artificial Intelligence

AI policy statement: Not Permitted in this Course

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course.

Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

Tutoring

The university provides free tutoring to all Tennessee Tech students through the Learning Center within the Volpe Library. Tutoring is available for any class or subject, as well as writing, test prep, study skills, and resume support. Appointments are scheduled, so contact the [Learning Center website](#) for more information.

Counseling and Health Services

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Emergency Preparedness Protocols

Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#).

The lectures, classroom activities, and all materials associated with this class are subject to change with advance notice to students

Political Science (POLS)

Name _____

General Track

(Leading to the Bachelor of Science Degree¹)

Freshman Year

<i>First Semester</i>		Cr	✓
POLS 1030: American Government	3		
POLS 1100: Intro to Political Science	3		
Natural Science	4		
ENGL 1010: English Comp I MATH ²	3		
POLS 1001: Career Readiness in Political Science	1		
Subtotal	14		
<i>Second Semester</i>			
SOC 1010: Intro to Sociology	3		
Natural Science	4		
ENGL 1020: English Comp II	3		
Foreign Language ³	3		
Math 1530	3		
Subtotal	16		
Total:	30		

Sophomore Year

<i>First Semester</i>		Cr	✓
Political Science Elective	3		
HIST 2010 Early US History	3		
ENGL 2130, 2235 or 2330	3		
Humanities / Fine Arts Elective	3		
Foreign Language ³	3		
Subtotal	15		
<i>Second Semester</i>			
Humanities / Fine Arts Elective	3		
HIST 2020: Modern US History	3		
COMM 2025 or PC 2500	3		
Political Science Electives (6 hours)	6		
Subtotal	15		
Total:	30		

Junior Year

<i>First Semester</i>		Cr	✓
Political Science Electives (6 hours)	3		
	3		
DS 2810 or CSC 2570	3		
POLS 3000: Data Analysis	3		
HIST Elective (upper division)	3		
Subtotal	15		
<i>Second Semester</i>			
ENGL Elective (Upper Division)	3		
General Electives (12 hours)	3		
	3		
	3		
	3		
Subtotal	15		
Total:	30		

Senior Year

<i>First Semester</i>		Cr	✓
Political Science Electives (6 hours)	3		
	3		
SOC SCI / CJ / PHIL Electives (6 hours)	3		
	3		
HIST Elective (upper division)	3		
Subtotal	15		
<i>Second Semester</i>			
General Electives (15 hours)	3		
	3		
	3		
	3		
	3		
Subtotal	15		
Total:	30		

¹A total of 120 hours is required for graduation with a minimum of 36 hours at the upper division level.

²Students need to take a general elective (it does not have to be a one-hour course). Consult your academic advisor.

³Six hours of foreign language in a sequence or three hours foreign language/three hours of culture & civilization.

Additional Comments:

~ Each student is personally responsible for completing all degree requirements and for being informed of these requirements. A student's advisor MAY NOT assume these responsibilities (see TTU Undergraduate Catalog).

~ Students must apply for graduation **at least two semesters prior** to expected graduation date.

Visit our web site for more information: <https://www.tntech.edu/cas/sps/index.php>

SOCIOLOGY (SOC - CRCJ)

Name _____

Concentration: Criminology & Criminal Justice

(Leading to the Bachelor of Science Degree¹)

Freshman Year

<i>First Semester</i>		Cr	✓
SOC 1010: Intro. to Sociology	3		
Natural Science	4		
ENGL 1010: English Comp I	3		
SOC/CJ/SW 2010: Behavior Social Environment I	3		
SOC 1001: Career Readiness in Crim/CJ	1		
Subtotal	14		
<i>Second Semester</i>			
MATH ³	3		
Digital/Financial Literacy	3		
ENGL 1020: English Comp II	3		
CJ 2850: Criminal Law & Procedure	3		
Foreign Language ⁴	3		
Subtotal	15		
Total:	29		

Sophomore Year

<i>First Semester</i>		Cr	✓
POLS 1030 American Government	3		
HIST 2010 Early US History	3		
ENGL 2130, 2235 or 2330	3		
SOC/CJ 2660 Criminology	3		
General Elective	3		
Subtotal	15		
<i>Second Semester</i>			
PHIL 1030: Intro. To Philosophy	3		
HIST 2020: Modern US History	3		
COMM 2025 or PC 2500	3		
Soc. Science/Philosophy Elective	3		
Humanities/Fine Arts Elective	3		
Subtotal	15		
Total:	30		

Junior Year

<i>First Semester</i>		Cr	✓
SOC 3900: Intro to Research	3		
SOC 3910: Social Sci. Stat. Analysis	3		
CJ 3610: Adv. Criminal Procedure	3		
SOC/SW/CJ electives (6 hours upper level)	6		
General Education Flexible Hour in Scientific Reasoning or Digital/Financial Literacy	1		
Subtotal	16		
<i>Second Semester</i>			
SOC 3100: Sociological Theory	3		
SOC/CJ 3650 Youth & Society	3		
Social Science/Philosophy Elective	3		
General Electives (6 hours)	3		
	3		
Subtotal	15		
Total:	31		

Senior Year

<i>First Semester</i>		Cr	✓
SOC/CJ 4660: Corrections	3		
SOC/CJ 3620: Victimology	3		
Soc. Science/Phil. Elective (Upper Level)	3		
SOC/SW/CJ Electives (6 hours upper level)	3		
	3		
Subtotal	15		
<i>Second Semester</i>			
General Electives (15 hours)	3		
	3		
	3		
	3		
	3		
Subtotal	15		
Total:	30		

¹A total of 120 hours is required for graduation with a minimum of 36 hours at the upper division level.

²Students need to take a general elective (it does not have to be a one-hour course). Consult your academic advisor.

³Any general education mathematics course. Math 1010 "Math for General Studies" recommended.

⁴The minimum is a course in a specific language. For example, none of the "Culture and Civilization" courses are acceptable.

Additional Comments:

~ Each student is personally responsible for completing all degree requirements and for being informed of these requirements. A student's advisor MAY NOT assume these responsibilities (see TTU Undergraduate Catalog).

~ Students must apply for graduation **at least two semesters prior** to expected graduation date.

SOCIOLOGY (SOC - SW)

Name _____

Concentration: Social Work

(Leading to the Bachelor of Science Degree¹)

Freshman Year

<i>First Semester</i>		Cr	✓
SOC 1010: Intro. to Sociology	3		
Natural Science	4		
ENGL 1010: English Comp I	3		
SOC/SW/CJ 2010: HBSE I	3		
SOC 1001: Career Readiness in Social Work	1		
Subtotal	14		
<i>Second Semester</i>			
SW 1800: Intro. To Social Work	3		
Digital/Financial Literacy	3		
ENGL 1020: English Comp II	3		
Foreign Language ⁴	3		
MATH ²	3		
Subtotal	15		
Total:	29		

Sophomore Year

<i>First Semester</i>		Cr	✓
POLS 1030 American Government	3		
HIST 2010 Early US History	3		
ENGL 2130, 2235 or 2330	3		
Humanities / Fine Arts Elective	3		
General Elective	3		
Subtotal	15		
<i>Second Semester</i>			
PSY 1030: Intro to Psychology	3		
HIST 2020: Modern US History	3		
COMM 2025 or PC 2500	3		
Humanities/Fine Arts Elective	3		
SOC/SW/CJ Elective	3		
Subtotal	15		
Total:	30		

Junior Year

<i>First Semester</i>		Cr	✓
SOC 3900: Intro to Research	3		
SOC 3910: Social Sci. Stat. Analysis	3		
SW/CJ 4100: Probation & Parole	3		
SOC/SW/CJ electives (6 hours upper level)	6		
General Education Flexible Hour in Scientific Reasoning or Digital/Financial Literacy	1		
Subtotal	16		
<i>Second Semester</i>			
SOC 3100: Sociological Theory	3		
PSY course or PSY 2210	3		
General Electives (9 hours)	3		
	3		
	3		
Subtotal	15		
Total:	31		

Senior Year

<i>First Semester</i>		Cr	✓
SW 4900: Internship	3		
SOC/CJ 3620: Victimology	3		
SW/CJ 4120: Case Management	3		
PHIL 2250: Introductory Ethics	3		
SOC/SW/CJ Electives (upper level)	3		
Subtotal	15		
<i>Second Semester</i>			
General Electives (15 hours)	3		
	3		
	3		
	3		
	3		
Subtotal	15		
Total:	30		

¹A total of 120 hours is required for graduation with a minimum of 36 hours at the upper division level.

²Any general education mathematics course. Math 1010 "Math for General Studies" recommended

³Students need to take a general elective (it does not have to be a one-hour course). Consult your academic advisor.

⁴The minimum is a course in a specific language. For example, none of the "Culture and Civilization" courses are acceptable.

Additional Comments:

~ Each student is personally responsible for completing all degree requirements and for being informed of these requirements. A student's advisor MAY NOT assume these responsibilities (see TTU Undergraduate Catalog).

~ Students must apply for graduation **at least two semesters prior** to expected graduation date.

SOCIOLOGY

Name _____

General Track

(Leading to the Bachelor of Science Degree¹)

Freshman Year

<i>First Semester</i>	Cr	✓
SOC 1010: Intro. to Sociology	3	
Natural Science	4	
ENGL 1010: English Comp I	3	
SOC/SW/CJ 2010: HBSE I	3	
SOC 1001: Career Readiness in Sociology	1	
Subtotal	14	
<i>Second Semester</i>		
MATH ²	3	
Digital/Financial Literacy	3	
ENGL 1020: English Comp II	3	
Foreign Language ⁴	3	
Humanities / Fine Arts Elective	3	
Subtotal	15	
Total:	29	

Sophomore Year

<i>First Semester</i>	Cr	✓
SOC/SW/CJ Elective	3	
HIST 2010 Early US History	3	
ENGL 2130, 2235 or 2330	3	
Humanities / Fine Arts Elective	3	
Social / Behavioral Sciences Elective	3	
Subtotal	15	
<i>Second Semester</i>		
Social Science / Philosophy Elective	3	
HIST 2020: Modern US History	3	
COMM 2025 or PC 2500	3	
General Electives (6 hours)	6	
General Education Flexible Hour in Scientific Reasoning or Digital/Financial Literacy	1	
Subtotal	16	
Total:	31	

Junior Year

<i>First Semester</i>	Cr	✓
SOC 3900: Intro to Research	3	
SOC 3910: Social Sci. Stat. Analysis	3	
SOC/SW/CJ electives (9 hours upper level)	3	
	3	
	3	
Subtotal	15	
<i>Second Semester</i>		
SOC 3100: Sociological Theory	3	
Social Science / Philosophy Elective	3	
General Electives (9 hours)	3	
	3	
	3	
Subtotal	15	
Total:	30	

Senior Year

<i>First Semester</i>	Cr	✓
Social Science / Philosophy Elective	3	
SOC/CJ 3620: Victimology	3	
General Elective	3	
SOC/SW/CJ Electives (6 hours upper level)	3	
	3	
Subtotal	15	
<i>Second Semester</i>		
General Electives (15 hours)	3	
	3	
	3	
	3	
	3	
Subtotal	15	
Total:	30	

¹A total of 120 hours is required for graduation with a minimum of 36 hours at the upper division level.

²Any general education mathematics course. Math 1010 "Math for General Studies" recommended

³Students need to take a general elective (it does not have to be a one-hour course). Consult your academic advisor.

⁴The minimum is a course in a specific language. For example, none of the "Culture and Civilization" courses are acceptable.

Additional Comments:

~ Each student is personally responsible for completing all degree requirements and for being informed of these requirements. A student's advisor MAY NOT assume these responsibilities (see TTU Undergraduate Catalog).

~ Students must apply for graduation **at least two semesters prior** to expected graduation date.

Political Science (POLS-LS)

Name _____

Concentration: Legal Studies

(Leading to the Bachelor of Science Degree¹)

Freshman Year

<i>First Semester</i>		Cr	✓
POLS 1030: American Government	3		
POLS 1100: Intro to Political Science	3		
Foreign Language ¹	3		
ENGL 1010: English Comp I	3		
POLS 1001: Career Readiness in Political Science	1		
Subtotal	13		
<i>Second Semester</i>			
SOC 1010: Intro to Sociology	3		
Natural Science	4		
ENGL 1020: English Comp II	3		
Foreign Language	3		
Math 1530	3		
Subtotal	16		
Total:	29		

Sophomore Year

<i>First Semester</i>		Cr	✓
Humanities / Fine Arts Elective	3		
HIST 2010 Early US History	3		
ENGL 2130, 2235 or 2330	3		
General Electives (6 hours)	3		
Subtotal	15		
<i>Second Semester</i>			
Humanities / Fine Arts Elective	3		
HIST 2020: Modern US History	3		
COMM 2025 or PC 2500	3		
Natural Science	4		
DS 2810 or CSC 2570	3		
Subtotal	16		
Total:	31		

Junior Year

<i>First Semester</i>		Cr	✓
Legal Studies Concentration (6 of 12 hours) CJ 2850, 3000 or POLS 2250, 3110, 3810, 4310, 4320, 4910	6		
General Elective	3		
POLS 3000: Data Analysis	3		
Political Science Elective (upper division)	3		
Subtotal	15		
<i>Second Semester</i>			
Legal Studies Concentration (Remaining 6 of 12 hours) CJ 2850, 3000 or POLS 2250, 3110, 3810, 4310, 4320, 4910	6		
Political Science Elective (upper division)	3		
General Elective	3		
ENGL Elective (upper division)	3		
Subtotal	15		
Total:	30		

Senior Year

<i>First Semester</i>		Cr	✓
Legal Studies Concentration: LAW 2810, 4720, or POLS 3120, or HIST Special Topic in Legal Studies content (as approved)	3		
Political Science Electives (6 hours upper division)	3		
Subtotal	15		
<i>Second Semester</i>			
General Electives (15 hours)	3		
Subtotal	15		
Total:	30		

¹Six hours of foreign language in a sequence or three hours foreign language/three hours of culture & civilization.

Additional Comments:

~ Each student is personally responsible for completing all degree requirements and for being informed of these requirements. A student's advisor MAY NOT assume these responsibilities (see TTU Undergraduate Catalog).

~ Students must apply for graduation **at least two semesters prior** to expected graduation date.

Visit our web site for more information: <https://www.tntech.edu/cas/sps/index.php>

Political Science (POLS)

Name _____

General Track

(Leading to the Bachelor of Science Degree¹)

Freshman Year

<i>First Semester</i>		Cr	✓
POLS 1030: American Government	3		
POLS 1100: Intro to Political Science	3		
Natural Science	4		
ENGL 1010: English Comp I MATH ²	3		
POLS 1001: Career Readiness in Political Science	1		
Subtotal	14		
<i>Second Semester</i>			
SOC 1010: Intro to Sociology	3		
Natural Science	4		
ENGL 1020: English Comp II	3		
Foreign Language ³	3		
Math 1530	3		
Subtotal	16		
Total:	30		

Sophomore Year

<i>First Semester</i>		Cr	✓
Political Science Elective	3		
HIST 2010 Early US History	3		
ENGL 2130, 2235 or 2330	3		
Humanities / Fine Arts Elective	3		
Foreign Language ³	3		
Subtotal	15		
<i>Second Semester</i>			
Humanities / Fine Arts Elective	3		
HIST 2020: Modern US History	3		
COMM 2025 or PC 2500	3		
Political Science Electives (6 hours)	6		
Subtotal	15		
Total:	30		

Junior Year

<i>First Semester</i>		Cr	✓
Political Science Electives (6 hours)	3		
	3		
DS 2810 or CSC 2570	3		
POLS 3000: Data Analysis	3		
HIST Elective (upper division)	3		
Subtotal	15		
<i>Second Semester</i>			
ENGL Elective (Upper Division)	3		
General Electives (12 hours)	3		
	3		
	3		
	3		
Subtotal	15		
Total:	30		

Senior Year

<i>First Semester</i>		Cr	✓
Political Science Electives (6 hours)	3		
	3		
SOC SCI / CJ / PHIL Electives (6 hours)	3		
	3		
HIST Elective (upper division)	3		
Subtotal	15		
<i>Second Semester</i>			
General Electives (15 hours)	3		
	3		
	3		
	3		
	3		
Subtotal	15		
Total:	30		

¹A total of 120 hours is required for graduation with a minimum of 36 hours at the upper division level.

²Students need to take a general elective (it does not have to be a one-hour course). Consult your academic advisor.

³Six hours of foreign language in a sequence or three hours foreign language/three hours of culture & civilization.

Additional Comments:

~ Each student is personally responsible for completing all degree requirements and for being informed of these requirements. A student's advisor MAY NOT assume these responsibilities (see TTU Undergraduate Catalog).

~ Students must apply for graduation **at least two semesters prior** to expected graduation date.

Visit our web site for more information: <https://www.tntech.edu/cas/sps/index.php>

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

19a. MUSIC – 1 COURSE CHANGE

Course Changes:

1. Course Description Change

MUED 3811 – Practicum in Music Education

Add “Admission to Teacher Education required” in course description

Justification: Admission to Teacher Education is required prior to taking this course per existing policies

Effective: Fall 2026

Financial Impact: None

19b. MUSIC – 2 NEW COURSES, 3 CURRICULUM CHANGES

Course Additions:

1. MUS 4810 – Internship in Musical Theatre (Internship 9, Cr 9)

Course Description: Prerequisite: Enrollment in B.M, Performance concentration - Musical Theatre option and approval of instructor. This course is an internship for students in the Bachelor of Music, Performance concentration - Musical Theatre option. The internship is with a faculty-approved theatre company or performance venue, with preference given to the Cumberland County Playhouse in Crossville, TN. All music majors must achieve a grade of "B" in this course.

Justification: The School of Music would like to change the credits of MUS – Musical Theatre Internship from 6 credits to 9 credits. This requires proposing a new course number and new course title.

Increasing the Theatre Internship course from 6 to 9 credit hours better reflects the time commitment and experiential learning expectations required of students in professional theatre placements. Internships often involve extensive rehearsal, production responsibilities, and professional collaboration that substantially exceed the workload typically associated with a six-credit course. Expanding the credit hours aligns the course more accurately with the number of hours students spend in supervised professional practice while also recognizing the significant role the internship plays in preparing students for careers in theatre and related fields.

Effective: Fall 2026

Financial Impact: None

2. MUS 2080 – Digital Creativity: Making Music with Digital Tools (Lec 2, Cr 2)

Course Description: Digital Creativity: Making Music with Digital Tools introduces students to the process of music creation through widely accessible, modern technologies while developing foundational digital literacy skills. Students learn the fundamentals of songwriting in the digital age, including beat construction, chord progressions, and melodic development, using free or widely available music-production tools. No prior musical experience is required.

Justification: The School of Music would like to offer this Flight Foundations course to fulfill the University's newly created category of Digital Literacy. This course does not require prior musical experience and introduces the general University community to music-making. Many people love music and have strong musical intuitions but lack formal training. This course allows musically inexperienced students to create music, when traditional methods of composing are otherwise inaccessible

Effective: Fall 2026

Financial Impact: None. The online course fees of the enrolled students will offset the cost of adjunct instruction.

Curriculum Changes:

1. Change Degree Map for BM Music Education - Vocal to reflect Flight Foundations changes

Communication - 9 credit hours
Historical Foundations - 6 credit hours
Humanities and Cultural Expression - 9 credit hours
Scientific Reasoning - 4 credit hours
Quantitative Reasoning and Analysis - 3 credit hours
Social and Behavioral Sciences - 6 credit hours
Financial and Digital Literacy - 3 credit hours
Flight Foundations Flexible elective (Scientific Reasoning or Financial/Digital Literacy) - 1 credit hours

Justification: This degree map now reflects flight foundations changes

Effective: Fall 2026

Financial Impact: None

2. Degree Map Change: Add Workshop in Music Education (0 cr) to Sophomore Fall, Sophomore Spring, Junior Fall, and Junior Spring semesters of the Bachelors in Music Education Degrees (Both Vocal and Instrumental tracts)

Justification: This is a course we created to embed practicum hours for our Music Education courses. This class is for-credit for our seniors, where they get valuable on podium time to conduct an ensemble of their peers. The sophomore and junior students make up these lab ensembles and are enrolled for the zero credit sections you see in the degree map.

Effective: Fall 2026

Financial Impact: None

3. Alter the degree map of the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to change where the following courses lie in the degree map

Course	New Semester Location
Quantitative Reasoning & Analysis FF (3 cr)	4
THEA 3000 – History of Theatre (3 cr)	5
MUS 1230 – Voice and Diction (3 cr)	6
MUS 3030 – Musical Theatre History (3 cr)	6
Social and Behavioral Science FF (3 cr)	7

Justification: These degree map changes were made for the following reasons:

1. Create a more logical pedagogical sequence of courses in the degree map and balance out the credits per semester. In addition, some of these courses are only offered during certain semesters due to faculty load.

Lastly, we aligned this degree map with the degree maps of our Theatre degree options to maximize efficiency of when these courses are offered.

Effective: Fall 2026

Financial Impact: None

4. Add MUS 1060 - Chorale and MUS 1070 - Concert Choir to the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to add these existing courses to the Musical Theatre degree option during the 5th and 6th semesters of study.

Justification: Choral ensembles are an important skill for musical theatre students because they help develop vocal, musical, and collaborative skills required for professional performance. Participation in choir strengthens musicianship, including sight-reading, harmony, blend, and vocal technique, all of which are essential for musical theatre performers who frequently sing in ensemble settings.

Effective: Fall 2026

Financial Impact: None

5. Replace THEA 1015 – Acting I with THEA 1016 – Fundamentals of Acting in the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to add this new course to the Musical Theatre degree option during the 1st semester of study.

Justification: The Theatre program changed the credits of THEA 1015 – Acting I from 3 credits to 2 credits. This required proposing a new course number and new course title, THEA 1016 – Fundamentals of Acting.

Effective: Fall 2026

Financial Impact: None

6. Replace THEA 2015 – Acting II with THEA 2016 – Intermediate Acting in the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to add this new course to the Musical Theatre degree option during the 2nd semester of study.

Justification: The Theatre program changed the credits of THEA 2015 – Acting II from 3 credits to 2 credits. This required proposing a new course number and new course title, THEA 2016 – Intermediate Acting.

Effective: Fall 2026

Financial Impact: None

7. Replace MUS 1650 - Ballet I with MUS 3650 – Musical Theatre Mvt I in the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to add this new course to the Musical Theatre degree option during the 3rd semester of study.

Justification: Last academic year, the School of Music was informed that the Musical Theatre degree option did not have 36 credits of upper-level credits. For this reason, several new upper-level courses were created and now need to be inserted into the musical theatre curriculum. These courses have equivalent content to the current courses, but have upper-level course numbers.

Effective: Fall 2026

Financial Impact: None

8. Replace MUS 1660 - Musical Theatre Movement II with MUS 3660 – Musical Theatre Mvt II in the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to add this new course to the Musical Theatre degree option during the 4th semester of study.

Justification: Last academic year, the School of Music was informed that the Musical Theatre degree option did not have 36 credits of upper-level credits. For this reason, several new upper-level courses were created and now need to be inserted into the musical theatre curriculum. These courses have equivalent content to the current courses, but have upper-level course numbers.

Effective: Fall 2026

Financial Impact: None

9. Replace MUS 1670 - Musical Theatre Movement III with MUS 3670 – Musical Theatre Mvt III in the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to add this new course to the Musical Theatre degree option during the 5th semester of study.

Justification: Last academic year, the School of Music was informed that the Musical Theatre degree option did not have 36 credits of upper-level credits. For this reason, several new upper-level courses were created and now need to be inserted into the musical theatre curriculum. These courses have equivalent content to the current courses, but have upper-level course numbers.

Effective: Fall 2026

Financial Impact: None

10. Replace MUS 1680 - Musical Theatre Movement IV with MUS 3680 – Musical Theatre Mvt IV in the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to add this new course to the Musical Theatre degree option during the 6th semester of study.

Justification: Last academic year, the School of Music was informed that the Musical Theatre degree option did not have 36 credits of upper-level credits. For this reason, several new upper-level courses were created and now need to be inserted into the musical theatre curriculum. These courses have equivalent content to the current courses, but have upper-level course numbers.

Effective: Fall 2026

Financial Impact: None

11. Replace Elective - Generic (2 cr) with MUS 1060/1070 – Choral Ens (1 cr) and MUS 1230 – Play Production (1 cr) in the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to make these curriculum changes to the Musical Theatre degree option during the 5th semester of study.

Justification: While both of these courses are already in the musical theatre curriculum during the freshman and senior year, the faculty felt that it was important for Musical Theatre students to repeat these courses in additional semesters to improve their choral skills (MUS 1060/1070) and encourage their participation in campus musicals (MUS 1230).

Effective: Fall 2026

Financial Impact: None

12. Add MUS 1060/1070 – Choral Ens (1 cr) to the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to add this course to the Musical Theatre degree option during the 6th semester of study.

Justification: Due to several curricular changes in which 3 credit courses were replaced by 2 credit courses, this course was added to keep the degree credits at 120. While this course is already in the musical theatre curriculum during several other semesters, the faculty feel that repeating this course is important for Musical Theatre students to improve their choral skills.

Effective: Fall 2026

Financial Impact: None

13. Add Elective - Generic (1 cr) to the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to add an elective credit to the Musical Theatre degree option during the 3rd semester of study.

Justification: Due to several curricular changes in which 3 credit courses were replaced by 2 credit courses, this additional generic elective was added to keep the degree credits at 120.

Effective: Fall 2026

Financial Impact: None

14. Replace Elective - Generic (1 cr) with MUS Upper-Level Elective (1 cr) to the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to further define this elective credit during the 7th semester of study.

Justification: Last academic year, the School of Music was informed that the Musical Theatre degree option did not have 36 credits of upper-level credits. For this reason, defining this elective credit as upper-level will ensure students graduate with 36 upper-level credits.

Effective: Fall 2026

Financial Impact: None

15. Remove 4 credits of Natural Sciences from the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to replace 4 credits of Natural Science requirements with 3 credits of Financial and/or Digital Literacy, and 1 credit of flexible FF in (Scientific Reasoning, Financial, or Digital Literacy)

Justification: The University's new Flight Foundation requirements allow for students to take between 4 and 8 credits of Scientific Reasoning courses. The Musical Theatre Program would like to require 3 credits of Financial and/or Digital Literacy, and allow students to choose 1 credit of flexible FF in (Scientific Reasoning, Financial, or Digital Literacy).

Effective: Fall 2026

Financial Impact: None

16. Replace MUS 4800 - Musical Theatre Internship (6 cr) with MUS 4810 – Internship in Musical Theatre (9 cr) in the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to replace this course in the Musical Theatre degree option during the 8th semester of study.

Justification: The School of Music would like to change the credits of MUS – Musical Theatre Internship from 6 credits to 9 credits. This requires proposing a new course number and new course title.

Increasing the Theatre Internship course from 6 to 9 credit hours better reflects the time commitment and experiential learning expectations required of students in professional theatre placements. Internships often involve extensive rehearsal, production responsibilities, and professional collaboration that substantially exceed the workload typically associated with a six-credit course. Expanding the credit hours aligns the course more accurately with the number of hours students spend in supervised professional practice while also recognizing the significant role the internship plays in preparing students for careers in theatre and related fields.

Effective: Fall 2026

Financial Impact: None

17. Remove Elective - Generic (3 cr) from the B.M. in Music, Performance Concentration, Musical Theatre Option.

The School of Music would like to remove 3 credits of general electives from the 8th semester of study.

Justification: Due to other curricular changes, these elective credits need to be removed to keep the degree at 120 credits.

Effective: Fall 2026

Financial Impact: None

Tennessee Tech University

School of Music

MUS 2080 Digital Creativity: Making Music with Digital Tools

Section 501

Instructor: Lucas Garner
Credits: 2 credits
Semester: Fall 2026
Dates: August 20 – December 10
Room: Online Course
Email: lgarner@tnitech.edu
Telephone: 931-372-6406
Prerequisites: None

1. Required Texts and References

There is no single required textbook for this course. Instead, students will use a combination of free or widely accessible digital resources that reflect real-world digital creativity practices.

This includes:

- Instructor-curated online tutorials and videos, shared through iLearn.
- Instructor-provided readings on algorithms, data privacy, and generative AI, delivered through iLearn.
- DAW and editing tutorials (GarageBand, Reaper, BandLab, or Cakewalk, Audacity, etc), provided through official software websites.

- Instructor-provided readings on rhythm, chords, and melody in a digital music environment.
- Creative Commons (creativecommons.org) – Understanding licensing, attribution, and reuse of creative works.

2. Course Description

Digital Creativity: Making Music with Digital Tools introduces students to the process of music creation through widely accessible, modern technologies while developing foundational digital literacy skills. Students learn the fundamentals of songwriting in the digital age, including beat construction, chord progressions, and melodic development, using free or widely available music-production tools. No prior musical experience is required.

Through hands-on projects, students locate, evaluate, and responsibly use digital resources such as music apps, web-based platforms, and generative AI to create original musical works.

Emphasis is placed on using digital tools responsibly, understanding privacy when using music apps and online platforms, respecting copyright when working with samples and AI-generated content, and recognizing how algorithms influence what music gets seen and heard online.

3. Course Objectives/Student Learning Outcomes

By the end of this course, students will be able to:

- Locate, critically evaluate, and demonstrate proficiency with digital music-production resources, including online tutorials, DAWs (digital audio workstations), music apps, web-based platforms, and creative learning tools.
- Demonstrate responsible use of creative software, cloud-based platforms, sound libraries, and generative AI tools in the production of original digital music.
- Identify and evaluate ethical considerations related to data privacy, copyright and sample licensing, AI-generated content, and the role of algorithms in shaping access to and visibility of digital creative work

4. Major Teaching Methods

- Asynchronous online lectures and video demonstrations introducing digital music-production concepts and workflows.
- Guided software tutorials using DAWs, music apps, and web-based platforms to develop practical skills in sequencing, recording, and editing.
- Project-based learning, with students creating original digital music projects that build from rhythm and harmony to a final integrated composition.
- Digital tool evaluation and reflection activities focused on responsible use, copyright and licensing, data privacy, and appropriate use of generative AI.
- Instructor feedback delivered through iLearn, including written comments and recorded responses on creative projects and reflections.

5. Special Instructional Platform/Materials

Mac or Windows computer with reliable internet access

Headphones or earbuds for audio monitoring

Digital Audio Workstation (depending on computer type):

- GarageBand (Mac – included)
- Reaper (Mac/Windows – free evaluation license)
- BandLab (web-based, free)
- Cakewalk by BandLab (Windows, free)

Audio editing software:

- Audacity (free)

Beginner-friendly creative tools (as assigned):

- BandLab App (mobile/web)
- Chrome Music Lab
- Launchpad App
- MuseScore (notation-based tools)

Generative AI tools (used responsibly and with disclosure):

- ChatGPT
- AIVA
- Suno or Udio (when permitted)

6. Topics to be Covered

- Introduction to digital music production using free DAWs (GarageBand, Reaper, BandLab, and Cakewalk)
- Beat creation using MIDI, virtual instruments, and browser-based tools (BandLab, Chrome Music Lab, Launchpad)
- Fundamentals of rhythm, chords, and melody using notation and sequencing tools (MuseScore)
- Recording, editing, and basic mixing techniques using GarageBand, Reaper, BandLab, and Audacity
- Using effects, loops, and sound libraries responsibly within education-friendly platforms
- Exporting, sharing, and collaborating on digital projects across web-based and mobile apps
- Introductory use of generative AI tools (ChatGPT, AIVA, Suno/Udio) for ideation and creative exploration
- Copyright, licensing, data privacy, and understanding how platform algorithms influence music discovery

7. Course Schedule

The instructor will provide due dates and a course schedule via iLearn.

8. Grading and Evaluation Procedures

Final averages will be assigned a letter grade, as listed below:

- A 90% and above
- B 80% - 89%
- C 70% - 79%
- D 60% - 69%
- F Below 60%

Grade Breakdown:

Project 1: Construction of a Beat (20%)

- Create a rhythmic track using a DAW
- Compare at least two rhythm-making tools
- Short reflection: Which platform is more accessible? Why?

Project 2: Construction of a Chord Progression (20%)

- Build harmonic structure
- Use virtual instruments responsibly
- Cite any loops or pre-made samples used

Project 3: Melody Creation (20%)

- Compose a melody using MIDI or recorded audio
- Evaluate at least one online tutorial for credibility and usefulness

Midterm Exam (15%)

- Digital literacy fundamentals
- Software terminology
- Intellectual property basics
- Ethical use of AI tools

Final Project: Integrated Song (25%)

- Complete track incorporating rhythm, harmony, and melody
- 2–3 page Digital Literacy Reflection including:
 - Tools used and why
 - Evaluation of resources consulted
 - AI usage disclosure (if applicable)
 - Copyright and licensing considerations
 - Data privacy considerations

9. Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and the key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding violations of academic integrity. All students are required to read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Class Participation

Because this course is delivered fully online, active participation is essential to student success. Participation is demonstrated through consistent engagement with course materials and activities in iLearn.

- Regularly access iLearn to review announcements, instructional materials, and assignment instructions
- Watch or review posted lectures and tutorials by the assigned deadlines
- Participate in online discussions, reflections, or peer feedback activities as assigned
- Submit projects and written components on time through iLearn
- Communicate professionally with the instructor and classmates using iLearn tools and university email

Participation is evaluated based on timely engagement, thoughtful contributions, and completion of required online activities, not simply logging into the course. Failure to engage regularly may negatively impact participation-related grades or project success.

Assignments and Related Policy

Course assignments consist of three creative projects, written reflections, a midterm exam, and a final integrated digital composition. All assignments must be submitted through iLearn by the posted deadlines.

Projects must represent the student's original work. Any use of generative AI, samples, loops, or external materials must be clearly disclosed and properly credited. Students are responsible for

ensuring that uploaded files are complete, correctly formatted, and playable.

Late submissions may result in a grade reduction unless prior arrangements have been made with the instructor. Technical issues should be documented and communicated promptly.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are allowed to be used for specific assignments or within set parameters, as designated by the instructor.

To ensure academic integrity, students must openly disclose any AI-generated material they utilize and provide proper attribution. This includes in-text citations, quotations, and references.

To indicate the use of a Generative AI resource, a student should include the following statement in their assignments: "The author(s) acknowledge the utilization of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was employed in the following manner(s) within this assignment [e.g., brainstorming, grammatical correction, citation, specific section of the assignment]."

10. Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

11. Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning \(CITL\)](#) website or call 931-372-3675 for assistance.

For accessibility information and statements for our instructional technologies, visit the [CITL's Learner Success Resource page](#).

Tutoring

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Health and Wellness

Counseling Center and Health Services

Tennessee Tech offers support for student well-being through two key services. The Center for Counseling and Mental Health Wellness provides brief, solution-focused therapy to help students navigate personal and social challenges. Health Services delivers accessible, high-quality, and affordable medical care to promote overall wellness. Visit their respective websites to learn more or schedule an appointment.

Emergency Preparedness Protocols

Each student must take personal responsibility for following any University protocol related to pandemics, natural disasters, and other public health and safety events. Students are expected to follow all directives published by Tennessee Tech on its [Environmental Health & Safety webpage](#).

Tennessee Tech University

School of Music

MUS 4810 Internship in Musical Theatre

Section 001

Instructor:	Wendy Mullen
Credits:	9 credits
Semester:	Spring 2027
Dates:	January 14 – April 30
Room:	BFA 366
Time:	TBA
Email:	wmullen@tntech.edu
Telephone:	931-372-3167
Office:	Bryan Fine Arts 366
Prerequisites:	Enrollment in B.M, Performance concentration - Musical Theatre option and approval of instructor.

1. Required Texts and References

Text and materials will be determined by the internship employer. Requirements will depend upon the student's internship duties and assignments.

2. Course Description

Prerequisite: Admission to the Bachelor of Music Performance: Musical Theatre Concentration.

This course is an internship with a faculty approved theatre company or performance venue, with preference given to the Cumberland County Playhouse in Crossville, TN. Students will gain practical

experience in the various facets of working with a professional theatre company. This course provides curriculum-related experience in one or more areas such as: performance, stage management, production, costuming, and set design.

3. Course Objectives

1. The internship provides an opportunity to explore various career possibilities in the dramatic arts.
2. Building on classroom knowledge, the internship provides an opportunity to learn those disciplines and skills that can best be learned on the job.
3. The internship further develops practical skills in a real-world context that can lead to entry-level job opportunities.
4. The internship provides an opportunity to strengthen the portfolio/resume with practical experience and projects.

4. Major Teaching Methods

Major teaching methods depend upon the approved internship agreement. Regardless of placement, students must complete the following for this course:

Mid Self-Reflection
Final Self-Reflection
Portfolio

5. Topics to be Covered

Topics are variable, depending on internship placement and the desired career path of the individual student.

6. Grading and Evaluation Procedures

Final averages will be assigned a letter grade, as listed below:

A – 90-100%
B – 80-89%
C – 70-79%
D – 60-69%
F – 59% or less

Grade Breakdown:

Learning objectives	10%
Mid Self-Reflection	10%
Mid-eval by supervisor	20%
Final Self-Reflection	10%
Completion of objectives	20%
Portfolio	10%
Final-eval by supervisor	20%

7. Course Policies

Student Academic Integrity Policy

Maintaining high standards of academic integrity in every class is critical to the reputation of Tennessee Tech, its students, faculty, alumni, and the employers of Tennessee Tech graduates. Academic integrity is at the foundation of the educational process and the key to student success. Students with academic integrity are committed to honesty, ethical behavior, and avoiding violations of academic integrity. All students are required to read and understand Policy 216: Student Academic Integrity. Please see the Academic Integrity website (<https://www.tntech.edu/provost/academicintegrity/>) for more information.

Attendance Policy

Students are expected to fulfill the internship assignments and give advance notice for any absences. Unexcused absences will be documented and graded in supervisor evaluations.

The following are defined as acceptable reasons for excused absences:

- Serious illness
- Serious illness or the death of a family member
- University-related trips
- Major religious holidays
- Other situation deemed acceptable by the instructor

Absences related to illness should be verified through a doctor's note or the University Health Services. Absences related to major religious holidays should be communicated at the beginning of the semester.

Students who are unable to attend class for an extended period due to an emergency/extenuating circumstance (i.e., medical illness, hospitalization, death in the family/bereavement, military or legal obligation), may contact the Office of the Vice President for Student Affairs at studentaffairs@tntech.edu to request an absence notification.

Class Participation

Not applicable.

Assignments and Related Policy

Written assignments must be submitted in iLearn by the date assigned.

Instructional and Assignment Use of Artificial Intelligence

In this course, Generative AI resources are not permitted. Students are expected to do all coursework themselves, as an individual or collectively, as designated by the instructor per assignment. The use of a Generative AI Tool to complete coursework constitutes academic misconduct for this course

8. Disability Accommodation

Students with a disability requiring accommodations should contact the accessible education center (AEC). An accommodation request (AR) should be completed as soon as possible, preferably by the end of the first week of the course. The AEC is located in the Roaden University Center, room 112; phone 931-372-6119. For details, view Tennessee Tech's policy 340 – [services for students with disabilities at policy central](#).

9. Additional Resources

Technical Help

If you are experiencing technical problems, visit the [myTech IT Helpdesk](#) for assistance.

If you are having trouble with one of the instructional technologies (i.e. Zoom, Teams, Qualtrics, Respondus, or any technology listed [here](#)) visit the [Center for Innovation in Teaching and Learning](#) (CITL) website or call 931-372-3675 for assistance.

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Bachelor of Music in Performance: Musical Theatre Option Revised Degree Map

Freshman Fall

ENG 1010	3
MATH	3
MUS 1013 – Recital Class	0
MUS 1120 – Harmony I	3
MUS 1130 – AT I	1
THEA 1016 – Fund. of Acting	2 (course change)
MUS 1200 – Private Voice	2
MUS 1060/1070 – Choral Ens	1
MUS 1011 – Class Piano I	1

13 credits

Freshman Spring

ENG 1020	3
MUS 1030 – Music Appreciation	3
MUS 1013 – Recital Class	0
MUS 1140 – Harmony II	3
MUS 1150 – AT II	1
THEA 2016 – Intermediate Acting	2 (course change)
MUS 1200 – Private Voice	2
MUS 1060/1070 – Choral Ens	1
MUS 1012 – Class Piano II	1

16 credits

Sophomore Fall

ENG 2130	3
Social/Behavioral Science	3
MUS 1013 – Recital Class	0
MUS 2110 – Harmony III	2
MUS 2120 – AT III	1
MUS 3006 – Opera Workshop	1
THEA 1030 – Intro to Theatre	3
MUS 1200 Private Voice	2
MUS 1023 – Class Piano III	1
MUS 3650 – Mus. Theatre Mvt I	1 (replace 1650)
General Elective	1 (new)

15 credits

Sophomore Spring

COMM 2025	3
Quantitative Reasoning & Analysis	3 (was fall fresh)
MUS 1013 – Recital Class	0
MUS 2130 – Harmony IV	2
MUS 2140 – AT IV	1
MUS 3006 – Opera Workshop	1
MUS 1230 – Voice and Diction	3
MUS 1200 – Private Voice	2
MUS 1024 – Class Piano IV	1
MUS 3660 – Mus. Theatre Mvt II	1 (replace 1660)
Social/Behavioral Science	3

17 credits

Junior Fall

Scientific Reasoning	4
THEA 1025 – Stagecraft I	3
MUS 1013 – Recital Class	0
MUS 3006 – Opera Workshop	1
MUS 1060/1070 – Choral Ens	1 (replace elect)
MUS 3200 – Private Voice	2
MUS 3670 – Mus. Theatre Mvt III	1 (replace 1670)
HIST 2010	3
THEA 3000 – History of Theatre	3 (was sp. junior)
MUS 1230 – Play Production	1 (replace elect)

16 credits

Junior Spring

MUS 1230 – Voice and Diction	3 (was spring soph)
MUS 1060/1070 Choral Ens	1 (new)
MUS 1013 – Recital Class	0
MUS 3006 – Opera Workshop	1
THEA 3000 – History of Theatre	3
MUS 3960 – Junior Project	1
MUS 3200 – Private Voice	2
MUS 3680 – Mus. Theatre Mvt IV	1 (replace 1680)
Historical Foundations	3
MUS 3030 – Musical Theatre Hist	3 (was fall senior)
Natural Science	4

15 credits

Senior Fall

Historical Foundations	3
MUS Upper-Level Elective	1 (upper-level)
MUS 1013 – Recital Class	0
MUS 3200 – Private Voice	2
MUS 1230 – Play Production	1
MUS 4250 – Recording Tech	2
MUS 3030 – Musical Theatre Hist	3
FF Elective (science, digital, fin)	1
Social and Behavioral Science	3 (was fall soph)
Financial and/or Digital FF	3

16 credits

Senior Spring

MUS 3200 – Private Voice	2
MUS 4130 – Senior Project	1
MUS 4810 - Intern. in Mus. Theat.	9 (new course)
MUS Elective	3
MUS 4800 – Mus. Theat. Intern.	6

12 credits

MUS-MUIN - Music, Instrumental/General Music, K-12 Licensure Concentration, B.M.

Program Long Title

Music, Instrumental/General Music, K-12 Licensure Concentration, B.M.

College/School

Fine Arts

Department(s)

[Music](#)

Degree Map Narrative

Additional Licensure: Vocal/General Music Education The student must satisfy current TTU requirements for the B.M. in Music Education, MUIN.

- MUED 3140 - Materials and Methods in Vocal Music, Grades 6-12 Credit: 3.
- MUS 1200 - Private Voice Credit: 1-2.
- MUS 1210 - Diction for Singers I Credit: 1.
- MUS 1220 - Diction for Singers II Credit: 1.
- MUS 1060 - Chorale Credit: 0-1. or
- MUS 1070 - Concert Choir Credit: 0-1.
- MUS 3800 - Vocal Pedagogy and Literature I Credit: 2

FRESHMAN YEAR

First Semester

Total Degree Map Credits

123

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

13

Requirements

- [ENGL1010](#) - English Composition I (FF) (3 cr)
- [Quantitative Reasoning and Analysis](#) (FF) (3 cr)
- [MUS1013](#) - Recital Class
- [MUS1021](#) - Class Voice Techniques I (0 - 1 cr)
- [MUS1120](#) - Harmony I (3 cr)
- [MUS1130](#) - Aural Techniques I (1 cr)
- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)

Total Degree Map Credits

123

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

17

Requirements

- [ENGL1020](#) - English Composition II (FF) (3 cr)
- [MUS1013](#) - Recital Class
- [MUS1030](#) - Music Appreciation (FF) (3 cr)
- [MUS1070](#) - Concert Choir (0 - 2 cr)
- [MUS1140](#) - Harmony II (3 cr)
- [MUS1150](#) - Aural Techniques II (1 cr)
- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)
- [Social/Behavioral Sciences \(Course Set\)](#) (FF) (3 cr)
- Instrument Techniques Class (Generic) (1 cr)

SOPHOMORE YEAR

First Semester

Total Degree Map Credits

123

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

17

Requirements

- **Financial and Digital Literacy (FF) (3 cr)**
- [MUED1820](#) - Intro to Music Ed (1 cr)
- **Humanities and Cultural Expression (FF) (3 cr)**
- [MUS1013](#) - Recital Class
- [MUS1023](#) - Intrm Class Piano/Mus Mjrs III (0 - 1 cr)
- [MUS2110](#) - Harmony III (0 - 2 cr)
- [MUS2120](#) - Aural Techniques III (1 cr)
- [MUS3010](#) - Music History & Lit I (3 cr)
- [MUED4850](#) - Workshop in Music Ed (0 cr)
- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)
- Instrument Techniques Class (Generic) (1 cr)

Second Semester

Total Degree Map Credits

123

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

17

Requirements

- **Scientific Reasoning (FF) (4 cr)**
- [MUS2210](#) – Psychology of Music (3 cr)
- [MUS1013](#) - Recital Class
- [MUS1024](#) - Intrm Class Piano/Mus Mjrs IV (0 - 1 cr)
- [MUS2130](#) - Harmony IV (0 - 2 cr)
- [MUS2140](#) - Aural Techniques IV (1 cr)
- [MUS3020](#) - Music History & Lit II (3 cr)
- [MUED4850](#) - Workshop in Music Ed (0 cr)

- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)
- Instrument Techniques Class (Generic) (1 cr)

JUNIOR YEAR

First Semester

Total Degree Map Credits

123

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

17

Requirements

- [COMM2025](#) - Fundamentals of Communication (FF) (3 cr)

OR

[PC2500](#) - Communicating in the Profess. (FF) (3 cr)

- [HIST2010](#) - Early United States History (FF) (3 cr)
- [MUED3110](#) - Mtrl & Meth in Music/K-5 (0 - 3 cr)
- [MUED3620](#) - Fundamentals of Conducting (1 cr)
- [MUED3230](#) - Marching Band Techniques (2 cr)

OR

[MUED3735](#) - String Pedagogy/Literature I (0 - 2 cr)

- [MUS1013](#) - Recital Class
- [MUS4510](#) - Computer App In Music (0 - 2 cr)
- [MUED4850](#) - Workshop in Music Ed (0 cr)
- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)
- Instrument Techniques Class (Generic) (1 cr)

Second Semester

Total Degree Map Credits

123

Degree Map Effective Catalog Year

Fall Term 2024 -

Actual Credits

15

Requirements

- [HIST2020](#) - Modern United States History (FF) (3 cr)
- [MUED3130](#) - Mtrls/Mthds-Instr Mus, 6-12 (0 - 3 cr)
- [MUED3630](#) - Instrumental Conducting & Lit (0 - 2 cr)
- [MUS1013](#) - Recital Class
- [MUS3130](#) - Form and Analysis (2 cr)
- [MUS3210](#) - Instrumentation (2 cr)
- [MUED4850](#) - Workshop in Music Ed (0 cr)
- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)
- Instrument Techniques Class (Generic) (1 cr)

SENIOR YEAR

First Semester

Total Degree Map Credits

123

Degree Map Effective Catalog Year

Fall Term 2024 -

Actual Credits

15

Requirements

- Applied Music (Generic) (1 cr)
- [Humanities and Cultural Expression \(FF\) \(3 cr\)](#)
- Major Ensemble (Generic) (1 cr)
- [MUS4000](#) - Senior Recital (1 cr)
- [MUED 3811](#) - Practicum in Music Ed (3 cr.) (Generic) (3 cr)
- [MUED4850](#) - Workshop in Music Ed (0 - 3 cr)
- [Flight Foundations Flexible Elective: Scientific Reasoning OR Financial/Digital Literacy \(FF\) \(1 cr\)](#)
- [Social/Behavioral Sciences \(Course Set\) \(FF\) \(3 cr\)](#)

Second Semester

Total Degree Map Credits

123

Degree Map Effective Catalog Year

Fall Term 2024 -

Actual Credits

12

Requirements

- [MUED4881](#) - Residency II (10 cr)
- [MUED4882](#) - Professional Seminar II (2 cr)
- Instrument Techniques classes, 5 hours. Take MUS 1031 , MUS 1041 , and MUS 1051 , plus two from: MUS 1032 (string students), MUS 1042 (brass and percussion students), MUS 1052 (woodwind and percussion students), MUS 1071 (woodwind, brass, strings, piano and guitar students) or MUS 1081 (piano and guitar students). 2 Must submit evidence of current First Aid/CPR training. (Generic)
- Participate each semester in the Ensemble of Record specific to the student's instrument: • Piano: Vocal Track: University Choirs; Instrumental Track: University Bands, University Orchestra, or University Jazz Bands • Guitar: University Choirs or University Jazz Bands, or Marching Band • Strings: University Orchestra • Voice : Concert Choir or Chorale • Wind/Percussion: Fall Semester – Marching Band (first 3 years), University Jazz Bands, Chamber Winds, or Orchestra. Spring Semester – Symphony Band or Concert Band as assigned by audition. (Generic)

MUS-MUVO - Music, Vocal/General Music, K-12 Licensure Concentration, B.M.

Program Long Title

Music, Vocal/General Music, K-12 Licensure Concentration, B.M.

College/School

Fine Arts

Department(s)

[Music](#)

FRESHMAN YEAR

First Semester

Total Degree Map Credits

120

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

13

Requirements

- [ENGL1010](#) - English Composition I (FF) (3 cr)
- [Quantitative Reasoning and Analysis \(Flight Foundations - FF\)](#) (3 cr)
- [MUS1013](#) - Recital Class
- [MUS1120](#) - Harmony I (3 cr)
- [MUS1130](#) - Aural Techniques I (1 cr)
- [MUS1210](#) - Diction for Singers I (1 cr)
- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)

Second Semester

Total Degree Map Credits

120

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

16

Requirements

- [ENGL1020](#) - English Composition II (FF) (3 cr)
- [Social/Behavioral Sciences \(Course Set\) \(FF\)](#) (3 cr)
- [MUS1013](#) - Recital Class
- [MUS1030](#) - Music Appreciation (FF) (3 cr)
- [MUS1140](#) - Harmony II (3 cr)
- [MUS1150](#) - Aural Techniques II (1 cr)
- [MUS1220](#) - Diction for Singers II (1 cr)
- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)

SOPHOMORE YEAR

First Semester

Total Degree Map Credits

120

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

17

Requirements

- [Financial and Digital Literacy \(FF\)](#) – (3 cr)
- [MUS1023](#) - Intrm Class Piano/Mus Mjrs III (0 - 1 cr)

OR

- [MUS1016](#) - Accompanying (0 - 1 cr)
- [MUED1820](#) - Intro to Music Ed (1 cr)
- [MUS1013](#) - Recital Class
- [MUS2110](#) - Harmony III (0 - 2 cr)
- [MUS2120](#) - Aural Techniques III (1 cr)
- [MUS3010](#) - Music History & Lit I (3 cr)
- [MUED4850](#) - Workshop in Music Ed (0 cr)
- [Scientific Reasoning \(FF\)](#) (4 cr)
- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)

Second Semester

Total Degree Map Credits

120

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

16

Requirements

- [PC2500](#) - Communicating in the Profess. (FF) (3 cr)
- OR**
- [COMM2025](#) - Fundamentals of Communication (FF) (3 cr)
- [MUS1016](#) - Accompanying (0 - 1 cr)
- OR**
- [MUS1024](#) - Intrm Class Piano/Mus Mjrs IV (0 - 1 cr)
- [MUS2210](#) - Psychology of Music (3 cr)
 - [MUS1013](#) - Recital Class
 - [MUS2130](#) - Harmony IV (0 - 2 cr)
 - [MUS2140](#) - Aural Techniques IV (1 cr)
 - [MUS3020](#) - Music History & Lit II (3 cr)
 - [MUED4850](#) - Workshop in Music Ed (0 cr)
 - Flight Foundations Flexible Elective: Scientific Reasoning OR Financial/Digital Literacy (FF) (1 cr)
 - Applied Music (Generic) (1 cr)
 - Major Ensemble (Generic) (1 cr)

JUNIOR YEAR

First Semester

Total Degree Map Credits

120

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

15

Requirements

- [Social/Behavioral Sciences \(Course Set\) \(FF\) \(3 cr\)](#)
- [MUED3110](#) - Mtrl & Meth in Music/K-5 (0 - 3 cr)
- [MUED3620](#) - Fundamentals of Conducting (1 cr)
- [MUS1013](#) - Recital Class
- [MUS3130](#) - Form and Analysis (2 cr)
- [MUS3240](#) - Choral Literature (2 cr)
- [MUS3800](#) - Vocal Pedagogy & Lit I (2 cr)

- [MUED4850](#) - Workshop in Music Ed (0 cr)
- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)

Second Semester

Total Degree Map Credits

120

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

18

Requirements

- [HIST2010](#) - Early United States History (FF) (3 cr)
- Electives (3 cr.) (Generic) (3 cr)
- Humanities and Cultural Expression (FF) (3 cr)
- [MUED3140](#) - Mtrls/Mthds-Vocal Mus, 6-12 (0 - 3 cr)
- [MUED3640](#) - Choral Conducting & Lit (0 - 2 cr)
- [MUS1013](#) - Recital Class
- [MUS4510](#) - Computer App In Music (0 - 2 cr)
- [MUED4850](#) - Workshop in Music Ed (0 cr)
- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)

SENIOR YEAR

First Semester

Total Degree Map Credits

120

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

13

Requirements

- [HIST2020](#) - Modern United States History (FF) (3 cr)
- [MUED3811](#) - Practicum in Music Ed (Generic) (3 cr)
- [MUS4000](#) - Senior Recital (1 cr)
- Humanities and Cultural Expression (FF) (3 cr)
- Applied Music (Generic) (1 cr)
- Major Ensemble (Generic) (1 cr)

- [MUED4850](#) - Workshop in Music Ed (0 - 3 cr)

Second Semester

Total Degree Map Credits

123

Degree Map Effective Catalog Year

Fall Term 2026 -

Actual Credits

12

Requirements

- [MUED4881](#) - Residency II (10 cr)
- [MUED4882](#) - Professional Seminar II (2 cr)
- Must submit evidence of current First Aid/CPR training. Note: Additional Licensure: Instrumental Music Education The above curriculum is necessary for licensure in Vocal/General Music. If licensure in Instrumental Music Education is also desired, then the following courses also need to be completed: • MUED 3130 - Materials and Methods in Instrumental Music, Grades 6-12 Credit: 3. • MUED 3830 - Practicum in Music Education II, Instrumental Credit: 1. • MUS 1000 - Private Composition Credit: 1-2. (band/orch. Inst) • MUS 1033 - Marching Band Credit: 0-1. • MUS 1085 - University Orchestra Credit: 0-1. • MUS 1045 - Concert Band Credit: 0-1. • MUED 3230 - Marching Band Techniques Credit: 2. • MUS 1031 - String Techniques I Credit: 1. • MUS 1041 - Woodwind Techniques I Credit: 1. • MUS 1051 - Brass Techniques I Credit: 1. • MUS 1071 - Percussion Techniques I Credit: 1. (Generic)

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

20. GENERAL AND INDUSTRIAL ENGINEERING – 1 CURRICULUM CHANGE FOR FLIGHT FOUNDATIONS

I. CURRICULUM CHANGES

JUSTIFICATION

The curriculum for the BSE is being updated to meet the University's new Flight Foundations (General Education) requirements. There are two changes in the BSE Curriculum. First, BSE students are no longer required to take a Literature Course; however, they may still choose to take a Literature Course within the Humanities and Cultural Expression category. Second, BSE students must take 3 hours of coursework in the Digital or Financial Literacy category. The implementation for the BSE degree follows the summary seen below.

Communication (CM)	9 hours	ENGL 1010, ENGL 1020, Comm 2025 or PC 2500
Quantitative Reasoning and Analysis (QRA)	3 hours	MATH 1910
Social and Behavioral Sciences (SBS)	6 hours	Student choice
Historical Foundations	6 hours	ENGR Exemption
Humanities and Cultural Expression (HCE)	6 hours	Student choice
Scientific Reasoning (SR)	8 hours	CHEM 1110, CHEM 1120
Financial or Digital Literacy (FDL)	3 hours	Student choice
	41 hours	

Reference Note: The BSE is a joint degree program with ETSU. These students must meet the general education requirements at both institutions. The main difference between Flight Foundations and ETSU's Compass Core Curriculum is the Financial or Digital Literacy requirement. For example, one option under the Growing as an Individual and Global Citizen category of the Compass Core is Personal Finance (FNCE 2220). This might be an option to satisfy the Financial or Digital Literacy requirement in the Flight Foundations.

From the ETSU Catalog: FNCE 2220 (3 credits)

Provides a consumer-oriented introduction to finance. Budget priorities, credit, interest rates, insurance, investments, housing, and estate planning are presented.

Financial Impact: None

Effective Date: Fall 2026

Degree Map

Freshman 32 hrs (+1)			
ENGR 1020	1**	ENGR 1120—ETSU	2
ENGR 1110	2	MATH 1920	4
MATH 1910 (QRA Elective)	4	CHEM 1120 (SR)	4
CHEM 1110 (SR)	4	ENGL 1020 (CM)	3
ENGL 1010 (CM)	3	HCE Approved Elective	3
HCE Approved Elective	3		
	16+1		16
Sophomore 32 hrs			
CEE 2110—ETSU	3	ME 2330—ETSU	3
ENGR 3710—TTU	2	MATH 2010	3
MATH 2110	4	MATH 2120	3
PHYS 2110	4	PHYS 2120	4
FDL Approved Elective	3	CM Approved Elective	3
	16		16
Junior 34 hrs			
ECE 2050—ETSU	4	ECE 2140—ETSU	4
ENGR 3120—ETSU	3	ME 3010—TTU	3
ME 2210—TTU	3	ME 3310—ETSU	3
CEE 3110—TTU	3	ME 3720—ETSU	3
SBS Approved Elective	3	SBS Approved Elective	3
ENGR 3720—TTU	2		
	18		16
Senior 30 hrs			
ENGR 4510—TTU	3	ENGR 3020—TTU	3
ENGR 4900—TTU	3	ENGR 4960—ETSU	3
ENGR 4950—ETSU	3	Technical Elective***—TTU	3
ENGR 4750—ETSU	1	Technical Elective***—ETSU	3
Technical Elective***—TTU	3	Free Elective	2
Technical Elective***—TTU	3		
	16		14

*** Technical Electives

ETSU: ENTC 3340, ENTC 4037, ENTC 4237, ENTC 4257, ENTC 4989, MGMT 4617, SURV 2530

TTU: CEE 3320, CEE 3413, CEE 3610, ECE 3210, ECE 3330, ECE 3610, ME 3610, ME 3710, ME 3020

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

21. Electrical and Computer Engineering: Course Changes (Pre-requisite)/Corrections to the Catalog

JUSTIFICATION:

Students in ECE 4210 do not need the content of ECE 3260 as a prerequisite. Students in ECE 4210 learn the relevant material in this class itself.

Pre-requisite change for ECE 4210:

From: C or better in ECE 3210 and C or better in ECE 3260.

Design of compensators using frequency domain techniques; Design projects with hardware implementation

To: C or better in ECE 3210

Design of compensators using frequency domain techniques; Design projects with hardware implementation

Effective Date: Fall 2026

Financial Impact: None

21b. Electrical and Computer Engineering: 3 curriculum changes for flight foundations

I. CURRICULUM CHANGES

- Communication - 9 cr.
- Scientific Reasoning - 8 cr.
- Social/Behavioral - 6 cr.
- Humanities and Cultural Expression - 6 cr.
 - 3 credits - any Humanities and Cultural Expression
 - 3 credits - literature
- Quantitative Reasoning and Analysis - 3 cr.
- Financial Literacy
 - FIN 2000

JUSTIFICATION

The curriculum for the BSCmpE, BSCmpE Hardware and System Security Concentration, BSEE, BSEE Mechatronics Concentration, and BSEE Vehicular Engineering Concentration is being updated to meet the University's new General Education requirements. In all of the degree maps, the Humanities and Fine Arts Electives will be reduced from 6 hours to 3 hours, and a 3-hour course, Finance 2000 – Personal Finance, will be added to meet the Digital or Financial Literacy requirement.

All of the changes are part of the core curriculum but will also modify the concentrations (presented in detail in the following sections *changes in italics*).

Financial Impact: None

Effective Date: Fall 2026

A. BSCmpE no Concentration

First Year – First Semester

Current		Proposed	
ENGL 1010 Writing Composition I	3	ENGL 1010 Writing Composition I	3
MATH 1910 Calculus I	4	MATH 1910 Calculus I	4
CHEM 1110 General Chemistry I	4	CHEM 1110 General Chemistry I	4
ECE 1000 Explorations in ECE	3	ECE 1000 Explorations in ECE	3
Humanities/Fine Arts Elective	3	<i>FIN 2000 Personal Finance</i>	3
	17		17

B. BSCmpE HSS Concentration

First Year – First Semester

Current		Proposed	
ENGL 1010 Writing Composition I	3	ENGL 1010 Writing Composition I	3
MATH 1910 Calculus I	4	MATH 1910 Calculus I	4
CHEM 1110 General Chemistry I	4	CHEM 1110 General Chemistry I	4
ECE 1000 Explorations in ECE	3	ECE 1000 Explorations in ECE	3
Humanities/Fine Arts Elective	3	<i>FIN 2000 Personal Finance</i>	3
	17		17

C. BSEE No Concentration

First Year – First Semester

Current		Proposed	
ENGL 1010 Writing Composition I	3	ENGL 1010 Writing Composition I	3
MATH 1910 Calculus I	4	MATH 1910 Calculus I	4
CHEM 1110 General Chemistry I	4	CHEM 1110 General Chemistry I	4
ECE 1000 Explorations in ECE	3	ECE 1000 Explorations in ECE	3
Humanities/Fine Arts Elective	3	<i>FIN 2000 Personal Finance</i>	3
	17		17

D. BSEE Mechatronics Concentration

First Year – First Semester

Current		Proposed	
ENGL 1010 Writing Composition I	3	ENGL 1010 Writing Composition I	3
MATH 1910 Calculus I	4	MATH 1910 Calculus I	4
CHEM 1110 General Chemistry I	4	CHEM 1110 General Chemistry I	4
ECE 1000 Explorations in ECE	3	ECE 1000 Explorations in ECE	3
Humanities/Fine Arts Elective	3	<i>FIN 2000 Personal Finance</i>	3
	17		17

E. BSEE VE Concentration

First Year – First Semester

Current		Proposed	
ENGL 1010 Writing Composition I	3	ENGL 1010 Writing Composition I	3
MATH 1910 Calculus I	4	MATH 1910 Calculus I	4
CHEM 1110 General Chemistry I	4	CHEM 1110 General Chemistry I	4
ECE 1000 Explorations in ECE	3	ECE 1000 Explorations in ECE	3
Humanities/Fine Arts Elective	3	<i>FIN 2000 Personal Finance</i>	3
	17		17



Degree Map

CATALOG YEAR: 2025-2026

Degree: BSCmpE

MAJOR: Computer Engineering

CONCENTRATION: Hardware and System Security

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 17		Total Credit Hours: 15	
ENGL 1010 English Composition I	3	ENGL 1020 Writing Composition II	3
MATH 1910 Calculus I	4	MATH 1920 Calculus II	4
CHEM 1110 General Chemistry I	4	CSC 1300 Intro to Problem Solving & Comp Prog	4
ECE 1000 Explorations in ECE	3	ECE 2140 Intro to Digital Systems	4
FIN 2000 Personal Finance	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 17		Total Credit Hours: 17	
ENGL 2130, 2235, or 2330 Literature	3	COMM 2025 or PC 2500 Communication	3
MATH 2120 Differential Equations	3	MATH 2610 Discrete Structures or CSC 2700 Discrete Structures for Comp Sci	3
MATH 2010 Intro to Linear Algebra	3	CSC 2400 Design of Algorithms	3
CSC 1310 Data Structures & Algorithms	4	ECE 3050 Circuits & Electronics II	4
ECE 2050 Circuits & Electronics I	4	PHYS 2110 Calculus-based Physics I	4
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 15		Total Credit Hours: 16	
ECE 3130 Microcomputer Systems	4	ECE 3920 Professional Issues in ECE	1
PHYS 2120 Calculus-based Physics II	4	MATH 3470 Intro to Prob and Statistics	3
ECE 3330 Signals & Systems	4	CSC 4200 Computer Networks	3
ECE 3140 Digital System Design	3	CSC 4575 Cryptography and Network Security	3
		ECE 3150 Intro to Hardware Security	3
		Humanities/Fine Arts Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 15		Total Credit Hours: 16	
ECE 4961 Capstone Design I	3	ECE 4971 Capstone Design II	3
ECE 4140 Embedded System Design	3	ECE 4120 Fundamentals of Computer Design	3
ECE 4150 Cyber-Physical Systems Hardware Security	3	ECE 4830 Applications of Machine Learning in ECE or CSC 4240 Artificial Intelligence	3
CmpE HSS Concentration Elective ¹	3	CmpE HSS Concentration Elective ¹	3
Social/Behavioral Science Elective	3	Social/Behavioral Science Elective	3
		Free Elective	1

Notes:

A detailed list of electives is available: <https://www.tntech.edu/engineering/programs/ece/electives-25.php>

1. CmpE HSS Concentration Electives: CSC 4100, CSC 4220, CSC 4580, CSC 4780, ECE 4130, MATH 4060.



Degree Map

CATALOG YEAR: 2025-2026

Degree: BSCmpE

MAJOR: Computer Engineering

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 17		Total Credit Hours: 15	
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3
MATH 1910 Calculus I	4	MATH 1920 Calculus II	4
CHEM 1110 General Chemistry I	4	CSC 1300 Intro to Problem Solving & Comp Prog	4
ECE 1000 Explorations in ECE	3	ECE 2140 Intro to Digital Systems	4
FIN 2000 Personal Finance	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 17		Total Credit Hours: 17	
ENGL 2130, 2235, or 2330 Literature	3	COMM 2025 or PC 2500 Communication	3
MATH 2120 Differential Equations	3	MATH 2610 Discrete Structures or CSC 2700 Discrete Structures for Comp Sci	3
MATH 2010 Intro to Linear Algebra	3	CSC 2400 Design of Algorithms	3
CSC 1310 Data Structures & Algorithms	4	ECE 3050 Circuits & Electronics II	4
ECE 2050 Circuits & Electronics I	4	PHYS 2110 Calculus-based Physics I	4
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 15		Total Credit Hours: 16	
ECE 3130 Microcomputer Systems	4	ECE 3920 Professional Issues in ECE	1
PHYS 2120 Calculus-based Physics II	4	MATH 3470 Intro to Prob and Statistics	3
ECE 3330 Signals & Systems	4	CSC 4100 Operating Systems	3
ECE 3140 Digital System Design	3	CMPE Breadth Elective ¹	3
		CMPE Breadth Elective ¹	3
		Humanities/Fine Arts Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall		Semester: Spring	
Total Credit Hours: 15		Total Credit Hours: 16	
ECE 4961 Capstone Design I	3	ECE 4971 Capstone Design II	3
ECE 4140 Embedded System Design	3	ECE 4120 Fundamentals of Computer Design	3
CmpE Depth Elective ²	3	CSC 4200 Computer Networks	3
CmpE Depth Elective ²	3	Career Elective ³	3
Social/Behavioral Science Elective	3	Social/Behavioral Science Elective	3
		Free Elective	1

Notes:

A detailed list of electives is available: <https://www.tntech.edu/engineering/programs/ece/electives-25.php>

1. CmpE Breadth Electives: ECE 3150, ECE 3210, ECE 3260, ECE 3270, ECE 3710, CSC 2310, CSC 3220, or CSC 3300
2. CmpE Depth Electives: ECE 4010, ECE 4020, ECE 4130, ECE 4150, CSC 4220, CSC 4240, CSC 4260, CSC 4400, CSC 4575, CSC 4580, CSC 4750, CSC 4760, CSC 4770, CSC 4780
3. Career Electives can be chosen from any of the following:
 - a. ECE: Any 3000-level ECE course except 3850; any 4000-level ECE course.
 - b. Engineering: CHE 2015, CEE 2110, CEE 3110, CEE 3413, CEE 3710, CSC 2310, CSC 2400, CSC 2510, CSC 2570, CSC 2700, CSC 2770, CSC 3020, CSC 3710, CSC 4100, CSC 4200, CSC 4240, CSC 4575, CSC 4750, CSC 4760, CSC 4780, ENGR 3020, ENGR 3710, ENGR 4500, ENGR 4510, ME 2330, ME 3210, ME 3610, ME 4140, VE 3400, VE 3500, VE 4050, VE 4500

- c. Mathematics: MATH 2110, MATH 2610, MATH 3070, MATH 3080, MATH 3400, MATH 3810, or any 4000-level MATH course except 4610 and 4620.
- d. Science: ASTR 1010, ASTR 1020, BIOL 1113, BIOL 1123, BIOL 2310, BIOL 2350, CHEM 1120, CHEM 2010, PHYS 1100, PHYS 2420, PHYS 2920
- e. Business: ACCT 3720, BMGT 3510, ECON 2010, ECON 2020, FIN 3210, LAW 2810, MKT 3400, MKT 3900
- f. Foreign Language: FREN 1010, FREN 1020, FREN 2010, FREN 2020, GERM 1010, GERM 1020, GERM 2010, GERM 2020, SPAN 1010, SPAN 1020, SPAN 2010, SPAN 2020
- g. Only one of CSC 3020 (ENGR 3020) and MATH 4210 may be taken for elective credit.



Degree Map

CATALOG YEAR: 2025-2026

Degree: BSEE

MAJOR: Electrical Engineering
CONCENTRATION: Vehicle Engineering

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 15	
ENGL 1010 Writing Comp I	3	ENGL 1020 Writing Comp II	3
MATH 1910 Calculus I	4	MATH 1920 Calculus II	4
CHEM 1110 General Chemistry I	4	CSC 1300 Intro to Problem Solv & Comp Prog	4
ECE 1000 Explorations in ECE	3	ECE 2140 Intro to Digital Systems	4
FIN 2000 Personal Finance	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 15	
ENGL 2130, 2235, or 2330 Literature	3	COMM 2025 or PC 2500 Communication	3
MATH 2120 Differential Equations	3	MATH 2110 Calculus III	4
ECE 2050 Circuits & Electronics I	4	PHYS 2110 Calc-based Physics I	4
CSC 1310 Data Structures & Algorithms	4	ECE 3050 Circuits & Electronics II	4
MATH 2010 Intro to Linear Algebra	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 18		Semester: Spring Total Credit Hours: 16	
MATH 3470 Intro to Probability & Stats	3	ECE 3920 Professional Issues in ECE	1
PHYS 2120 Calc-based Physics II	4	ECE 3510 Electromagnetic Fields	3
ECE 3330 Signals & Systems	4	VE 3500 Sensors, Transducers & Instrumentation	3
ECE 3130 Microcomputer Systems	4	VE 4050 Autonomous Vehicles	3
VE 3400 Intro to Automotive Systems	3	ECE 3210 Control System Analysis	3
		ECE 3610 Intro to Power Systems	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 15	
VE 4102 Senior Design Project I - EE	3	VE 4202 Senior Design Project II - EE	3
ECE 4050 Circuits & Electronics III	3	VE 4500 Reliability & Quality Engineering	3
EE Vehicle Concentration Elective ¹	3	Social/Behavioral Science Elective	3
EE Vehicle Concentration Elective ¹	3	Humanities/Fine Arts Elective	3
Social/Behavioral Science Elective	3	Career Elective ²	3

Notes:

A detailed list of electives is available: <https://www.tntech.edu/engineering/programs/ece/electives-25.php>

1. EE Vehicle Engineering Concentration Electives: ECE 3140, ECE 3150, ECE 3710, ECE 4010, ECE 4020, ECE 4140, ECE 4210, ECE 4630
2. Career Electives can be chosen from any of the following:
 - a. ECE: Any 3000-level ECE course except 3850; any 4000-level ECE course.
 - b. Engineering: CHE 2015, CEE 2110, CEE 3110, CEE 3413, CEE 3710, CSC 2310, CSC 2400, CSC 2510, CSC 2570, CSC 2700, CSC 2770, CSC 3020, CSC 3710, CSC 4100, CSC 4200, CSC 4240, CSC 4575, CSC 4750, CSC 4760, CSC 4780, ENGR 3020, ENGR 3710, ENGR 4500, ENGR 4510, ME 2330, ME 3210, ME 3610, ME 4140, VE 3400, VE 3500, VE 4050, VE 4500
 - c. Mathematics: MATH 2110, MATH 2610, MATH 3070, MATH 3080, MATH 3400, MATH 3810, or any 4000-level MATH course except 4610 and 4620.
 - d. Science: ASTR 1010, ASTR 1020, BIOL 1113, BIOL 1123, BIOL 2310, BIOL 2350, CHEM 1120, CHEM 2010, PHYS 1100, PHYS 2420, PHYS 2920

- e. Business: ACCT 3720, BMGT 3510, ECON 2010, ECON 2020, FIN 3210, LAW 2810, MKT 3400, MKT 3900
- f. Foreign Language: FREN 1010, FREN 1020, FREN 2010, FREN 2020, GERM 1010, GERM 1020, GERM 2010, GERM 2020, SPAN 1010, SPAN 1020, SPAN 2010, SPAN 2020
- g. Only one of CSC 3020 (ENGR 3020) and MATH 4210 may be taken for elective credit.



Degree Map

CATALOG YEAR: 2025-2026

Degree: BSEE

MAJOR: Electrical Engineering

CONCENTRATION: Mechatronics

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 17	
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3
MATH 1910 Calculus I	4	MATH 1920 Calculus II	4
CHEM 1110 General Chemistry I	4	CSC 1300 Intro to Problem Solving & Comp Prog	4
ECE 1000 Explorations in ECE	3	ECE 2140 Intro to Digital Systems	4
FIN 2000 Personal Finance	3	ENGR 1110 Engineering Graphics	2
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 18		Semester: Spring Total Credit Hours: 17	
ENGL 2130, 2235, or 2330 Literature	3	COMM 2025 or PC 2500 Communication	3
MATH 2120 Differential Equations	3	MATH 2110 Calculus III	4
ECE 2050 Circuits & Electronics I	4	ECE 3050 Circuits & Electronics II	4
PHYS 2110 Cal Based Physics I	4	CEE 2110 Statics	3
CSC 1310 Data Structures & Algorithms	4	MATH 2010 Intro to Linear Algebra	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 18		Semester: Spring Total Credit Hours: 12	
MATH 3470 Intro to Probability & Statistics	3	ECE 3920 Professional Issues in ECE	1
ECE 3130 Microcomputer Systems	4	ECE 3510 Electromagnetic Fields I	3
ME 2330 Dynamics	3	ME 3610 Dynamics of Machinery	3
ECE 3330 Signals & Systems	4	ECE 3210 Control Systems Analysis	3
PHYS 2120 Calculus-based Physics II	4	ECE 3260 Control Systems Lab	1
		ECE 3270 Programmable Logic Controller Lab	1
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 14	
ECE 4961 Capstone Design I	3	ECE 4971 Capstone Design II	3
ECE 4050 Circuits & Electronics III	3	EE Mechatronics Concentration Elective ¹	3
ME 4140 Intro to Robotics & Intelligent Mach Engr	3	EE Mechatronics Concentration Elective ¹	3
Social/Behavioral Science Elective	3	Social/Behavioral Science Elective	3
Humanities/Fine Arts Elective	3	Free Elective	2

Notes:

A detailed list of electives is available: <https://www.tntech.edu/engineering/programs/ece/electives-25.php>

1. EE Mechatronics Concentration Electives: ECE 3610, ECE 3660, ECE 4010, ECE 4140, ECE 4210, ECE 4630, ME 4640, VE 3500



Degree Map

CATALOG YEAR: 2025-2026

Degree: BSEE

MAJOR: Electrical Engineering

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 15	
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3
MATH 1910 Calculus I	4	MATH 1920 Calculus II	4
CHEM 1110 General Chemistry I	4	CSC 1300 Intro to Problem Solv & Comp Prog	4
ECE 1000 Explorations in ECE	3	ECE 2140 Intro to Digital Systems	4
FIN 2000 Personal Finance	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 15	
ENGL 2130, 2235, or 2330 Literature	3	COMM 2025 or PC 2500 Communication	3
MATH 2120 Differential Equations	3	MATH 2110 Calculus III	4
MATH 2010 Intro to Linear Algebra	3	PHYS 2110 Calculus-based Physics I	4
CSC 1310 Data Structures & Algorithms	4	ECE 3050 Circuits & Electronics II	4
ECE 2050 Circuits & Electronics I	4		
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 18		Semester: Spring Total Credit Hours: 16	
MATH 3470 Introductory Probability & Stats	3	ECE 3920 Professional Issues in ECE	1
ECE 3130 Microcomputer Systems	4	ECE 3510 Electromagnetic Fields	3
PHYS 2120 Calculus-based Physics II	4	EE Breadth Elective ¹	3
ECE 3330 Signals & Systems	4	EE Breadth Elective ¹	3
Humanities/Fine Arts Elective	3	EE Breadth Elective ¹	3
		Career Elective ³	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 15	
ECE 4961 Capstone Design I	3	ECE 4971 Capstone Design II	3
ECE 4050 Circuits & Electronics III	3	EE Depth Elective ²	3
EE Breadth Elective ¹	3	Career Elective ³	3
EE Depth Elective ²	3	Social/Behavioral Science Elective	3
Social/Behavioral Science Elective	3	Free Elective	3

Notes:

A detailed list of electives is available: <https://www.tntech.edu/engineering/programs/ece/electives-25.php>

- EE Breadth Electives: ECE 3140, ECE 3150, ECE 3210, ECE 3260, ECE 3270, ECE 3540, ECE 3610, ECE 3660, or ECE 3710
- EE Depth Electives: ECE 4010, ECE 4020, ECE 4120, ECE 4130, ECE 4140, ECE 4150, ECE 4210, ECE 4370, ECE 4510, ECE 4520, ECE 4610, ECE 4620, ECE 4630, ECE 4710, or ECE 4720
- Career Electives can be chosen from any of the following:
 - ECE: Any 3000-level ECE course except 3850; any 4000-level ECE course.
 - Engineering: CHE 2015, CEE 2110, CEE 3110, CEE 3413, CEE 3710, CSC 2310, CSC 2400, CSC 2510, CSC 2570, CSC 2700, CSC 2770, CSC 3020, CSC 3710, CSC 4100, CSC 4200, CSC 4240, CSC 4575, CSC 4750, CSC 4760, CSC 4780, ENGR 3020, ENGR 3710, ENGR 4500, ENGR 4510, ME 2330, ME 3210, ME 3610, ME 4140, VE 3400, VE 3500, VE 4050, VE 4500
 - Mathematics: MATH 2110, MATH 2610, MATH 3070, MATH 3080, MATH 3400, MATH 3810, or any 4000-level MATH course except 4610 and 4620.

- d. Science: ASTR 1010, ASTR 1020, BIOL 1113, BIOL 1123, BIOL 2310, BIOL 2350, CHEM 1120, CHEM 2010, PHYS 1100, PHYS 2420, PHYS 2920
- e. Business: ACCT 3720, BMGT 3510, ECON 2010, ECON 2020, FIN 3210, LAW 2810, MKT 3400, MKT 3900
- f. Foreign Language: FREN 1010, FREN 1020, FREN 2010, FREN 2020, GERM 1010, GERM 1020, GERM 2010, GERM 2020, SPAN 1010, SPAN 1020, SPAN 2010, SPAN 2020
- g. Only one of CSC 3020 (ENGR 3020) and MATH 4210 may be taken for elective credit.

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

22. MANUFACTURING AND ENGINEERING TECHNOLOGY – 3 CURRICULUM CHANGES FOR FLIGHT FOUNDATIONS

I. CURRICULUM CHANGES - Flight Foundation Curriculum Updates

- Communication - 9 cr.
- Scientific Reasoning - 8 cr.
- Social/Behavioral - 6 cr.
- Humanities and Cultural Expression - 6 cr.
 - 3 credits – Any Humanities and Cultural Expression
 - 3 credits – Literature or Any Humanities and Cultural Expression
- Quantitative Reasoning and Analysis - 3 cr.
- Financial Literacy or Digital Literacy - 3 cr.
 - FIN 2000

JUSTIFICATION

The curriculum for the BSET, BSET Management Concentration, BSET Mechatronics Concentration, and BSET SMART Concentration is being updated to meet the University's new General Education requirements. In all degree maps, English Literature (3 credit hours) will be replaced with a 3-hour course, Finance 2000 – Personal Finance, to meet the Digital or Financial Literacy requirement. If students wish to take an English Literature course, it can be chosen as a Humanities/Fine Arts elective. This change does not affect the Minor in Business program.

All of the changes are part of the core curriculum but will also modify the concentrations (presented in detail in the following sections, *changes in italics*).

Effective Date: Fall 2026

Financial Impact: None

A. BSET no Concentration

Second Year – First Semester

Current		Proposed	
ENGL 2130, 2235, or 2330 Literature	3	<i>FIN 2000 Personal Finance</i>	3
MET 2065 Metal Manufacturing Technology	2	MET 2065 Metal Manufacturing Technology	2
ENGR 1120 Programming for Engineers	2	ENGR 1120 Programming for Engineers	2
PHYS 2010 or PHYS 2110	4	PHYS 2010 or PHYS 2110	4
ECON 2010 Principles of Microeconomics	3	ECON 2010 Principles of Microeconomics	3
	14		14

B. BSET Management Concentration

Second Year – First Semester

Current		Proposed	
ENGL 2130, 2235, or 2330 Literature	3	<i>FIN 2000 Personal Finance</i>	3
MET 2065 Metal Manufacturing Technology	2	MET 2065 Metal Manufacturing Technology	2
ENGR 1120 Programming for Engineers	2	ENGR 1120 Programming for Engineers	2
PHYS 2010 or PHYS 2110	4	PHYS 2010 or PHYS 2110	4
ECON 2010 Principles of Microeconomics	3	ECON 2010 Principles of Microeconomics	3
	14		14

C. BSET Mechatronics Concentration

Second Year – First Semester

Current		Proposed	
ENGL 2130, 2235, or 2330 Literature	3	<i>FIN 2000 Personal Finance</i>	3
MET 2065 Metal Manufacturing Technology	2	MET 2065 Metal Manufacturing Technology	2
ENGR 1120 Programming for Engineers	2	ENGR 1120 Programming for Engineers	2
PHYS 2010 or PHYS 2110	4	PHYS 2010 or PHYS 2110	4
ECON 2010 Principles of Microeconomics	3	ECON 2010 Principles of Microeconomics	3
	14		14

D. BSET SMART Concentration

Second Year – First Semester

Current		Proposed	
ENGL 2130, 2235, or 2330 Literature	3	<i>FIN 2000 Personal Finance</i>	3
MET 2065 Metal Manufacturing Technology	2	MET 2065 Metal Manufacturing Technology	2
ENGR 1120 Programming for Engineers	2	ENGR 1120 Programming for Engineers	2
PHYS 2010 or PHYS 2110	4	PHYS 2010 or PHYS 2110	4
ECON 2010 Principles of Microeconomics	3	ECON 2010 Principles of Microeconomics	3
	14		14

NAME:
T#:



Degree Map

CATALOG YEAR: 2025-2026

Degree: BSET

MAJOR: Engineering Technology

CONCENTRATION: Mechatronics

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction. **Course completed**, **Course in Progress**, **Course recommended for next semester**

FRESHMAN YEAR

Fall		Cr. Hrs.	Spring		Cr. Hrs.
MET 1115 Intro to MET & Engr Ethics		3	MET 2000 Occupational Safety Spring Only		2
ENGR 1110 Engineering Graphics		2	MATH 1845 Technical Calculus		3
Humanities/Fine Arts Elective		3	Humanities/Fine Arts Elective		3
MATH 1730 Pre-calculus Mathematics		5	CHEM 1110 or CHEM 1010		4
ENGL 1010 Writing Composition I		3	ENGL 1020 Writing Composition II		3
Total Credit Hours		16	Total Credit Hours		15

SOPHOMORE YEAR

Fall		Cr. Hrs.	Spring		Cr. Hrs.
Financial or Digital Literacy		3	MET 2400 Statics & Strength of Materials (p. MATH and PHYS 2010)		3
MET 2065 Metal Manufacturing Technology (p. ENGR 1110, MET 1115, MATH)		2	PHYS 2020 or PHYS 2120		4
ENGR 1120 Programming for Engineers		2	PSY 1030 Intro to Psychology		3
PHYS 2010 or PHYS 2110		4	HIST 2020 Modern US History		3
ECON 2010 Principles of Microeconomics		3	ECON 2020 Principles of Macroeconomics		3
Total Credit Hours		14	Total Credit Hours		16

JUNIOR YEAR

Fall		Cr. Hrs.	Spring		Cr. Hrs.
MET 3100 Applied Physical Metallurgy or ME 3010 (p. MET 1115 & CHEM 1010)		3	MET 3003 Principles of Metal Casting (p. MET 1115, MET 3100 or ME 3010) co req		3
MET 3303 CAD for Technology (p. ENGR 1110)		3	ACCT 3720 Survey of Accounting		3
MET 3713 Methods Design & Work Measurement FALL ONLY (p. Junior status 60 cr)		3	MET 3403 Applied Machine Elements (p. MET 2400 & 3303)		3
MET 3200 Applied Electricity & Electronics (p. MATH 1845 or 1910 and PHYS 2020) TAKE 3 semesters before graduation		3	*MET 3270 Industrial Electronics & PLCs (p. MET 3200)		3
BMGT 3510 Management & Organizational Behavior		3	MATH 3070 Statistical Methods OR ECON 3610 Business Statistics I		3
Total Credit Hours		15	Total Credit Hours		15

SENIOR YEAR

Fall		Cr. Hrs.	Spring		Cr. Hrs.
MET 3150 Maintenance Technology		2	LAW 2810 Business Legal Environment & Ethics		3
*MET 4000 Advanced Foundry FALL ONLY or MET 4210 or MET 4990		3	HIST 2010 Early US History		3
COMM 2025 or PC 2500 Communications		3	*MET 3060 Computer Numerical Controls (p. ENGR 1120 or CSC 1300, MET 2065)		3
FIN 3210 Principles of Managerial Finance (p. ACCT 3720, ECON 2010 & 2020)		3	*MET 4220 Industrial Automation/Robotics (p. MET 3200) or MET 4210 or MET 4990		3
MKT 3400 Principles of Marketing		3	MET 4620 Senior Projects (p. MET 3403)		3
*MET 4250 Mechatronics (p. MET 3200)		3			
Total Credit Hours		17	Total Credit Hours		15

***Courses specific to this concentration**

Notes:

NAME:
T#:



College of Engineering

TENNESSEE TECH

Degree Map

CATALOG YEAR: 2025-2026

Degree: BSET

MAJOR: Engineering Technology

CONCENTRATION: Smart Manufacturing

*The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction. **Course completed**, **Course in Progress**, **Course recommended for next semester***

FRESHMAN YEAR				
Fall	Cr. Hrs.		Spring	Cr. Hrs.
MET 1115 Intro to MET & Engr Ethics	3		MET 2000 Occupational Safety	2
ENGR 1110 Engineering Graphics	2		MATH 1845 Technical Calculus	3
Humanities/Fine Arts Elective	3		Humanities/Fine Arts Elective	3
MATH 1730 Pre-calculus Mathematics	5		CHEM 1110 or CHEM 1010	4
ENGL 1010 Writing Composition I	3		ENGL 1020 Writing Composition II	3
Total Credit Hours	16		Total Credit Hours	15
SOPHOMORE YEAR				
Fall	Cr. Hrs.		Spring	Cr. Hrs.
Financial or Digital Literacy	3		MET 2400 Statics & Strength of Material (p. MATH and PHYS 2010)	3
MET 2065 Metal Manufacturing Technology (p. ENGR 1110, MET 1115, MATH)	2		PHYS 2020 or PHYS 2120	4
ENGR 1120 Programming for Engineers	2		PSY 1030 Intro to Psychology	3
PHYS 2010 or PHYS 2110	4		HIST 2020 Modern US History	3
ECON 2010 Principles of Microeconomics	3		ECON 2020 Principles of Macroeconomics	3
Total Credit Hours	14		Total Credit Hours	16
JUNIOR YEAR				
Fall	Cr. Hrs.		Spring	Cr. Hrs.
MET 3100 Applied Physical Metallurgy or ME 3010 (p. MET 1115 & CHEM 1010)	3		MET 3003 Principles of Metal Casting (p. MET 1115, MET 3100 or ME 3010) co req	3
MET 3303 CAD for Technology (p. ENGR 1110)	3		ACCT 3720 Survey of Accounting	3
MET 3713 Methods Design & Work Measurement FALL ONLY (p. Junior status 60 cr)	3		MET 3403 Applied Machine Elements (p. MET 2400 & 3303)	3
MET 3200 Applied Electricity & Electronics (p. MATH 1845 or 1910 and PHYS 2020)	3		MATH 3070 Statistical Methods or ECON 3610 Business Statistics I	3
BMGT 3510 Management & Organizational Behavior	3		*MET 3620 Industrial IoT Networks & Systems (p. ENGR 1120 and MET 3200)	3
Total Credit Hours	15		Total Credit Hours	15
SENIOR YEAR				
Fall	Cr. Hrs.		Spring	Cr. Hrs.
MET 3150 Maintenance Technology	2		LAW 2810 Business Legal Environment & Ethics	3
COMM 2025 or PC 2500 Communications	3		HIST 2010 Early US History	3
FIN 3210 Principles of Managerial Finance	3		*MET 4420 Intro to Additive Manufacturing (p. MET 3620)	3
MKT 3400 Principles of Marketing	3		*MET 4520 Autonomous Robots in Manufacturing (p. MET 4320)	3
*MET 4000 Advanced Foundry Technology FALL ONLY	3		*MET 4720 Senior Projects for Smart Manufacturing	3
*MET 4320 Mixed Reality in Manufacturing (p. MET 3620)	3			
Total Credit Hours	17		Total Credit Hours	15

*Courses specific to this concentration

Notes:

Updated 5/29/24

NAME:
T#:



College of Engineering

TENNESSEE TECH

Degree Map

CATALOG YEAR: 2025-2026

Degree: BSET

MAJOR: Engineering Technology

CONCENTRATION: Smart Manufacturing

*The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction. **Course completed**, **Course in Progress**, **Course recommended for next semester***

FRESHMAN YEAR					
Fall		Cr. Hrs.	Spring		Cr. Hrs.
MET 1115 Intro to MET & Engr Ethics		3	MET 2000 Occupational Safety		2
ENGR 1110 Engineering Graphics		2	MATH 1845 Technical Calculus		3
Humanities/Fine Arts Elective		3	Humanities/Fine Arts Elective		3
MATH 1730 Pre-calculus Mathematics		5	CHEM 1110 or CHEM 1010		4
ENGL 1010 Writing Composition I		3	ENGL 1020 Writing Composition II		3
Total Credit Hours		16	Total Credit Hours		15
SOPHOMORE YEAR					
Fall		Cr. Hrs.	Spring		Cr. Hrs.
Financial or Digital Literacy		3	MET 2400 Statics & Strength of Material (p. MATH and PHYS 2010)		3
MET 2065 Metal Manufacturing Technology (p. ENGR 1110, MET 1115, MATH)		2	PHYS 2020 or PHYS 2120		4
ENGR 1120 Programming for Engineers		2	PSY 1030 Intro to Psychology		3
PHYS 2010 or PHYS 2110		4	HIST 2020 Modern US History		3
ECON 2010 Principles of Microeconomics		3	ECON 2020 Principles of Macroeconomics		3
Total Credit Hours		14	Total Credit Hours		16
JUNIOR YEAR					
Fall		Cr. Hrs.	Spring		Cr. Hrs.
MET 3100 Applied Physical Metallurgy or ME 3010 (p. MET 1115 & CHEM 1010)		3	MET 3003 Principles of Metal Casting (p. MET 1115, MET 3100 or ME 3010) co req		3
MET 3303 CAD for Technology (p. ENGR 1110)		3	ACCT 3720 Survey of Accounting		3
MET 3713 Methods Design & Work Measurement FALL ONLY (p. Junior status 60 cr)		3	MET 3403 Applied Machine Elements (p. MET 2400 & 3303)		3
MET 3200 Applied Electricity & Electronics (p. MATH 1845 or 1910 and PHYS 2020)		3	MATH 3070 Statistical Methods or ECON 3610 Business Statistics I		3
BMGT 3510 Management & Organizational Behavior		3	*MET 3620 Industrial IoT Networks & Systems (p. ENGR 1120 and MET 3200)		3
Total Credit Hours		15	Total Credit Hours		15
SENIOR YEAR					
Fall		Cr. Hrs.	Spring		Cr. Hrs.
MET 3150 Maintenance Technology		2	LAW 2810 Business Legal Environment & Ethics		3
COMM 2025 or PC 2500 Communications		3	HIST 2010 Early US History		3
FIN 3210 Principles of Managerial Finance		3	*MET 4420 Intro to Additive Manufacturing (p. MET 3620)		3
MKT 3400 Principles of Marketing		3	*MET 4520 Autonomous Robots in Manufacturing (p. MET 4320)		3
*MET 4000 Advanced Foundry Technology FALL ONLY		3	*MET 4720 Senior Projects for Smart Manufacturing		3
*MET 4320 Mixed Reality in Manufacturing (p. MET 3620)		3			
Total Credit Hours		17	Total Credit Hours		15

*Courses specific to this concentration

Notes:

Updated 5/29/24

NAME:

T#:



College of Engineering

TENNESSEE TECH

Degree Map

CATALOG YEAR: 2025-2026

Degree: BSET

MAJOR: Engineering Technology

CONCENTRATION: Management

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction. **Course completed**, **Course in Progress**, **Course recommended for next semester**

FRESHMAN YEAR

Fall		Cr. Hrs.	Spring		Cr. Hrs.
MET 1115 Intro to MET & Engr Ethics		3	MET 2000 Occupational Safety Spring Only		2
ENGR 1110 Engineering Graphics		2	MATH 1845 Technical Calculus		3
Humanities/Fine Arts Elective		3	Humanities/Fine Arts Elective		3
MATH 1710 (3) & MATH 1720 (3) or MATH 1730		5	CHEM 1110 or CHEM 1010		4
ENGL 1010 Writing Composition I		3	ENGL 1020 Writing Composition II		3
Total Credit Hours		16	Total Credit Hours		15

SOPHOMORE YEAR

Fall		Cr. Hrs.	Spring		Cr. Hrs.
Financial or Digital Literacy		3	MET 2400 Statics & Strength of Materials (p. MATH and PHYS 2010)		3
MET 2065 Metal Manufacturing Technology (p. ENGR 1110, MET 1115, MATH)		2	PHYS 2020 or PHYS 2120		4
ENGR 1120 Programming for Engineers		2	PSY1030 Intro to Psychology		3
PHYS 2010 or PHYS 2110		4	HIST 2020 Modern US History		3
ECON 2010 Principles of Microeconomics		3	ECON 2020 Principles of Macroeconomics		3
Total Credit Hours		14	Total Credit Hours		16

JUNIOR YEAR

Fall		Cr. Hrs.	Spring		Cr. Hrs.
MET 3100 Applied Physical Metallurgy or ME 3010 (p. MET 1115 & CHEM 1010)		3	MET 3003 Principles of Metal Casting		3
MET 3303 CAD for Technology (p. ENGR 1110)		3	ACCT 3720 Survey of Accounting		3
MET 3713 Methods Design & Work Measurement FALL ONLY (p. Junior status 60 cr)		3	MET 3403 Applied Machine Elements (p. MET 2400 & 3303)		3
MET 3200 Applied Electricity & Electronics (p. MATH 1845 or 1910 and PHYS 2020)		3	COMM 2025 or PC 2500 Communications		3
BMGT 3510 Management & Organizational Behavior		3	MATH 3070 Statistical Methods OR ECON 3610 Business Statistics I		3
Total Credit Hours		15	Total Credit Hours		15

SENIOR YEAR

Fall		Cr. Hrs.	Spring		Cr. Hrs.
MET 3150 Maintenance Technology		2	LAW 2810 Business Legal Environment & Ethics		3
*MET 3703 Manufacturing Cost Estimating FALL ONLY		3	*MET 4650 Lean Six Sigma Manufacturing		3
*MET 4600 Product Design & Development FALL ONLY or MET 4990		3	*MET 4310 Plant Layout (p. MET 3303 & 3713) Spring or Summer Only or MET 4990		3
FIN 3210 Principles of Managerial Finance (p. ACCT 3720, ECON 2010 & 2020)		3	*MET 4550 Maintenance, Replacement, & Reliability Engineering Spring Only or MET 4990		3
MKT 3400 Principles of Marketing		3	MET 4620 Senior Projects (p. MET 3403)		3
HIST 2010 Early US History		3			
Total Credit Hours		17	Total Credit Hours		15

*Courses specific to this concentration

Notes:

23a. CIVIL AND ENVIRONMENTAL ENGINEERING – 3 COURSE ADDITIONS

CEE 4470 (5470) Stormwater Management

Credit 3. Lee 3.

Prerequisite: CEE 3413 and CEE 3420.

Fundamental and practical knowledge in stormwater management and design, including why and how improper management causes hydrologic and ecosystem problems, develop concepts supporting the design and modeling of stormwater best management practices and relate that to the current regulatory environment for stormwater.

Justification: This course, previously offered four times a special topics course, has consistently received positive feedback from students. It is a project-based course that equips students with practical knowledge of stormwater regulations, design criteria, and industry-standard tools used in stormwater management. The topic of the course is an increasingly critical area in civil and environmental engineering. Many of our current students and graduates are working in roles where this expertise is directly applicable, emphasizing the course's value in preparing students for real-world challenges. The course also complements existing offerings in the Water Resources and Environmental Engineering curriculum, including Engineering Hydrology, Environmental Engineering, and the Senior Design Project.

CEE 4970 Undergraduate Research

Credit 3.

Prerequisite: Consent of instructor.

Research in the student's area of interest focusing on proposal development, literature review, and experimental/computational research activities cumulating in a final report. May not be repeated to improve a grade.

Justification:

The existing CEE 4990 course has been used as a "catch-all" for independent study, undergraduate research, and trial courses. These changes will separate out categories as separate courses consistent with graduate level changes in an effort to improve faculty workload modeling.

CEE 4980 Independent Study

Credit 3.

Prerequisite: Consent of instructor.

Independent study in an area not covered by existing courses. May not be repeated to improve a grade.

Justification:

The existing CEE 4990 course has been used as a "catch-all" for independent study, undergraduate research, and trial courses. These changes will separate out categories as separate courses consistent with graduate level changes in an effort to improve faculty workload modeling.

Effective Date: Fall 2026

Financial Impact: None

1. CEE 4980 - **Independent Study**
2. Course credit hours: 3
 Contact hours per week: 3
 Credit category: Engineering
3. Course coordinators: Ben Mohr
4. Textbook: TBD
 Supplemental materials: TBD

5. Course information:

2026 Catalog description	Independent study in an area not covered by existing courses. May not be repeated to improve a grade.
Prerequisite(s)	Consent of Instructor
Prerequisite(s) or Concurrent Enrollment	None
Co-requisite(s)	None
Course type	Elective

6. Course instructional outcomes:

Course Outcome No.	Course Outcome (CO)
CO1	Acquire new knowledge in a specific topical area

ABET criterion 3 Student Outcomes addressed by this course:

SO No.	Student Outcome (SO)
3.1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
3.2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3.4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
3.6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
3.7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

7. Course topics:

TBD

8. Program criteria (curriculum) addressed by this course (may vary depending on topics):

- I. Application of mathematics through differential equations, probability and statistics, calculus-based physics, chemistry, and either computer science, data science, or an additional area of basic science
2. Application of engineering mechanics, materials science, and numerical methods relevant to civil engineering
3. Application of principles of sustainability, risk, and resilience to civil engineering problems
4. Solution of complex engineering problems in at least four specialty areas appropriate to civil engineering
5. Conduct of experiments in at least two civil engineering contexts and reporting of results

6. Additional topics, assignments, or requirements for dual-level (4000/5000) course:

Not Applicable

7. Date: 03/04/2026

CEE 4470 (5470): Stormwater Management

Course Syllabus

Catalog Description:

Fundamental and practical knowledge in stormwater management and design, including why and how improper management causes hydrologic and ecosystem problems, develop concepts supporting the design and modeling of stormwater best management practices and relate that to the current regulatory environment for stormwater.

Co-Instructors/Coordinators:

Dr. Tania Datta,
Department of Civil & Environmental Engineering,
Prescott Hall 333.
Email: tdatta@tntech.edu, Ph: 931-372-3446

Dr. Alfred J. Kalyanapu
Department of Civil & Environmental Engineering,
Prescott Hall 334.
Email: akalyanapu@tntech.edu, Ph: 931-372-3561

Prerequisites:

Environmental Engineering, CEE 3413
Hydraulics, CEE 3420
Engineering Hydrology, CEE 4420/5420 (for CEE 5470 only)

Suggested Reference Text:

1. Thomas N. Debo and Andrew Reese: Municipal Stormwater Management, Second Edition, November 25, 2002 by CRC Press.
2. Committee on Reducing Stormwater Discharge Contributions to Water Pollution. Urban Stormwater Management in the United States. National Research Council, National Academy of Science, 2009. http://www.nap.edu/catalog.php?record_id=12465

Instructional Outcomes for the Course:

Provide students with the ability to:

1. Understand the stormwater regulations and policies in the US, and specifically in the state of Tennessee.
2. Understand the impacts of storm water runoff on downstream ecosystem.
3. Understand the principles and design criteria behind non-structural and structural stormwater best management practices.
4. Design, analyze and evaluate stormwater management practices.
5. Use state-of-the-practice stormwater modeling solutions.

Criterion 3 Student Outcomes addressed by this Course:

- (1) an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- (2) an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental and economic factors.
- (3) an ability to communicate effectively with a range of audiences.
- (5) an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- (6) an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.

Program Criteria addressed by this Course:

Outcome 1: apply knowledge of mathematics through differential equations, calculus-based physics, chemistry, and at least one additional area of basic science

Outcome 3: analyze and solve problems in at least four technical areas appropriate to civil engineering

Course Topics:

- I. Introduction (5%)
2. Importance of Effective Stormwater Management (5%)
3. Stormwater Regulations in the United States (10%)
4. Site Characterization and Site Design Targets for Stormwater Management (10%)
5. Data Collection (10%)
6. Non-Structural Stormwater Best Management Practices: Design and Applications (10%)
7. Structural Stormwater Best Management Practices: Design and Applications (25%)
8. EPA SWMM Modeling (20%)
9. TNRRAT Demonstration (5%)

Additional Topics/Assignments for dual-level (4000/5000) courses:

Independent hands-on projects on Stormwater Management Design and/or Modeling and presenting project work in class.

1. CEE 4970 - **Undergraduate Research**

2. Course credit hours: 3
 Contact hours per week: 3
 Credit category: Engineering

3. Course coordinators: Ben Mohr

4. Textbook: TBD
 Supplemental materials: TBD

5. Course information:

2026 Catalog description	Research in the student's area of interest focusing on proposal development, literature review, and experimental/computational research activities cumulating in a final report. May not be repeated to improve a grade.
Prerequisite(s)	Consent of Instructor
Prerequisite(s) or Concurrent Enrollment	None
Co-requisite(s)	None
Course type	Elective

6. Course instructional outcomes:

Course Outcome No.	Course Outcome (CO)
CO1	Demonstrate an understanding of the literature review process
CO2	Conduct research in a specific topical area

ABET criterion 3 Student Outcomes addressed by this course:

SO No.	Student Outcome (SO)
3.1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
3.2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

3.4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
3.6	an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
3.7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

7. Course topics:

TBD

8. Program criteria (curriculum) addressed by this course (may vary depending on research topics):

- I. Application of mathematics through differential equations, probability and statistics, calculus-based physics, chemistry, and either computer science, data science, or an additional area of basic science
 1. Application of engineering mechanics, materials science, and numerical methods relevant to civil engineering
 2. Application of principles of sustainability, risk, and resilience to civil engineering problems
 3. Solution of complex engineering problems in at least four specialty areas appropriate to civil engineering
 4. Conduct of experiments in at least two civil engineering contexts and reporting of results

5. Additional topics, assignments, or requirements for dual-level (4000/5000) course:

Not Applicable

6. Date: 03/04/2026

23b. CIVIL AND ENVIRONMENTAL ENGINEERING – 4 CURRICULUM CHANGES FOR FLIGHT FOUNDATIONS

1. Curriculum Changes

(a) Flight Foundations Updates

- Replace “ENGL Literature” with “Financial or Digital Literacy”
- Change “Humanities and/or Fine Arts” to “Humanities and Cultural Expression”

Category	Hours
Quantitative Reasoning and Analysis	3
Humanities and Cultural Expression	6
Social and Behavioral Sciences	6
Communication	9
Scientific Reasoning	8
Financial or Digital Literacy	3
<i>(Historical Foundations)</i>	<i>(6)</i>
	35 (41)

(b) General curriculum edits

- Remove ECE 2850 as Technical Elective (no longer offered)
- Replace ME 3210 with ME 2110 in Technical Elective (course renumbered)
- Revise BSCE “Approved CEE Sequence” listing to add new courses
- Other minor editorial changes

Justification:

Updating curriculums consistent with new Flight Foundation general education requirements. Other edits to clean up curriculum and degree maps based on other course changes.

Effective Date: Fall 2026

Financial Impact: None



Degree Map

CATALOG YEAR: 2026-2027

Degree: BSCE

MAJOR: Civil Engineering

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.		Course	Cr. Hrs.
FIRST YEAR				
Semester: Fall Total Credit Hours: 16 (17)			Semester: Spring Total Credit Hours: 17	
CEE 1020 Connections to CEE ¹	1		ENGL 1020 Writing Composition II	3
ENGL 1010 Writing Composition I	3		Humanities/Fine Arts Elective Humanities and Cultural Expression Elective	3
MATH 1910 Calculus I	4		MATH 1920 Calculus II	4
CHEM 1110 Chemistry I	4		CHEM 1120 Chemistry II ²	4
ENGR 1110 Engineering Graphics	2		Social/Behavioral Science Elective	3
Humanities/Fine Arts Elective Humanities and Cultural Expression Elective	3			
Course	Cr. Hrs.		Course	Cr. Hrs.
SOPHOMORE YEAR				
Semester: Fall Total Credit Hours: 17			Semester: Spring Total Credit Hours: 17 or 18	
CEE 2110 Statics	3		COMM 2025 or PC 2500 Communication	3
MATH 2110 Calculus III	4		MATH 2120 Differential Equations	3
PHYS 2110 Physics I	4		CEE 3600 Surveying	3
ENGL 2130, 2230, or 2330 Literature Digital/Financial Literacy Elective	3		CEE 3110 Mechanics of Materials	3
Social/Behavioral Science Elective	3		ME 2330 Dynamics	3
			CEE (ENGR) 3720 or MATH 3470 Statistics	2 or 3
Course	Cr. Hrs.		Course	Cr. Hrs.
JUNIOR YEAR				
Semester: Fall Total Credit Hours: 17			Semester: Spring Total Credit Hours: 16	
CEE (ENGR) 3710 Engineering Economics	2		CEE 3500 Construction Engineering	3
CEE 3413 Environmental Engineering	3		CEE Lab Elective ³	1
CEE 3610 Transportation Engineering	3		GEOL 3210 Geology for Engineers	3
CEE 3415 or ME 3720 Fluid Mechanics	3		CEE 3420 Hydraulics	3
CEE 3320 Structural Mechanics	3		CEE 4310 Steel Design	3
CEE 3030 Civil Engineering Materials	3		CEE 4800 Geotechnical Engineering	3
Course	Cr. Hrs.		Course	Cr. Hrs.
SENIOR YEAR				
Semester: Fall Total Credit Hours: 14		Take FE Exam	Semester: Spring Total Credit Hours: 14 or 15	
CEE 4920 Professionalism and Ethics	1		CEE 4950 Senior Design	3
CEE 4940 Fundamentals of CEE	0		CEE Elective ⁶	3
CEE Lab Elective ³	1		CEE Elective ⁶	3
CEE Elective ⁶	3		CEE Sequence ⁷	3
CEE Sequence ⁷	3		Technical Elective ⁵	2 or 3
CEE 4320 Concrete Design	3			
MATH Elective ⁴	3			

Notes:

1. Optional course for first semester freshman only
2. CHEM 1120 or PHYS 2120. CHEM 1120 is preferred. ~~Students who intend to pursue the environmental area of emphasis should take CHEM 1120~~
3. CEE Lab Elective: Select 1 of the following 3 CEE lab courses: CEE 3040, CEE 3120, CEE 3430. ~~Students who select or plan to select the structural mechanics or structures option should take CEE 3120; environmental students should take CEE 3430.~~
4. MATH Elective: MATH 2010, MATH 3810, MATH 4210, MATH 4510
5. Technical Elective: ENGR 1120, ~~ECE 2850~~, ME 2210 ~~ME 3210~~, or CHE 3010 (*fall only*)
6. CEE Elective: Any 4000 level CEE course
7. Approved CEE Sequence
 - a. Construction Engineering & Management: CEE 4510 (ENGR 4510), CEE 4520, CEE 4530, CEE 4535, CEE 4540, CEE 4550, CEE 4560
 - b. Environmental Engineering & Water Resources: CEE 4410 (5410), CEE 4420 (5420), CEE 4430 (5430), CEE 4440 (5440), CEE 4450 (5450), CEE 4460 (5460), ~~CEE 4470 (5470)~~, CEE 4490
 - c. Structural Mechanics: CEE 4130 (5130), CEE 4170 (5170), CEE 4190 (5190)
 - d. Structural & Geotechnical Engineering: CEE 4340 (5340), CEE 4350 (5350), CEE 4360 (5360), CEE 4370 (5370), CEE 4380 (5380), CEE 4390 (5390), CEE 4550, CEE 4810 (5810), CEE 4820 (5820)
 - e. Transportation Engineering: CEE 4610 (5610), CEE 4630 (5630), CEE 4640 (5640), CEE 4660 (5660)



Degree Map

CATALOG YEAR: 2026-2027

Degree: BSCE

MAJOR: Civil Engineering
Concentration: Environmental Engineering

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.	
FIRST YEAR				
Semester: Fall Total Credit Hours: 16 (17)		Semester: Spring Total Credit Hours: 17		
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3	
CEE 1020 Connections to CEE ¹	1	Humanities/Fine Arts Elective Humanities and Cultural Expression Elective	3	
MATH 1910 Calculus I	4	MATH 1920 Calculus II	4	
CHEM 1110 Chemistry I	4	CHEM 1120 Chemistry II	4	
ENGR 1110 Engineering Graphics	2	Social/Behavioral Science Elective	3	
Humanities/Fine Arts Elective Humanities and Cultural Expression Elective	3			
Course	Cr. Hrs.	Course	Cr. Hrs.	
SOPHOMORE YEAR				
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 17		
ENGL 2130, 2230, or 2330 Literature Digital/Financial Literacy Elective	3	COMM 2025 or PC 2500 Communication	3	
MATH 2110 Calculus III	4	MATH 2120 Differential Equations	3	
PHYS 2110 Physics I	4	CEE 3600 Surveying	3	
CEE 2110 Statics	3	CEE 3110 Mechanics of Materials	3	
Social/Behavioral Science Elective	3	ME 2330 Dynamics	3	
		CEE (ENGR) 3710 Engineering Economics	2	
Course	Cr. Hrs.	Course	Cr. Hrs.	
JUNIOR YEAR				
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 17 or 18		
CEE 3500 Construction Engineering	3	CEE (ENGR) 3720 or MATH 3470 Statistics	2 or 3	
CEE 3413 Environmental Engineering	3	CHE 3010 or ME 2210 3210 Thermodynamics	3	
CEE 3610 Transportation Engineering	3	GEOL 3210 Geology for Engineers	3	
CEE 3415 or ME 3720 Fluid Mechanics	3	CEE 3420 Hydraulics	3	
CEE 3320 Structural Mechanics	3	CEE 4310 or CEE 4320	3	
CEE 3430 Environmental Engineering Lab	1	CEE 3030 Civil Engineering Materials	3	
Course	Cr. Hrs.	Course	Cr. Hrs.	
SENIOR YEAR				
Semester: Fall Total Credit Hours: 15 or 16		Semester: Spring Total Credit Hours: 13		
CEE 4800 Geotechnical Engineering	3	Take FE Exam	CEE 4950 Senior Design	3
CEE 4920 Professionalism and Ethics	1		CEE Lab Elective ³	1
CEE 4940 Fundamentals of CEE	0		CEE Elective ⁴	3
ENGR 1120 or ECE 2850	2 or 3		Environmental Engineering Elective ²	3
Environmental Engineering Elective ²	3		Environmental Engineering Elective ²	3
Environmental Engineering Elective ²	3			
Environmental Engineering Elective ²	3			

Note:

1. Optional course for first semester freshman only
2. Environmental Engineering Elective: CEE 4400-4499, ESS 3000, GEOG 4510, GEOG 4511, GEOG 4620, GEOG 4650, or GEOL 4711; At least 3 of 5 courses must be CEE courses
3. CEE Lab Elective: CEE 3040 or CEE 3120; CEE 3040 preferred
4. CEE Elective: Any 4000 level CEE course



Degree Map

CATALOG YEAR: 2026-2027

Degree: BSCE

MAJOR: Civil Engineering
Concentration: Geological Engineering

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.		Course	Cr. Hrs.
FIRST YEAR				
Semester: Fall		Total Credit Hours: 16 (17)	Semester: Spring	
ENGL 1010 Writing Composition I		3	ENGL 1020 Writing Composition II	
CEE 1020 Connections to CEE ¹		1	Humanities/Fine Arts Elective	
MATH 1910 Calculus I		4	Humanities and Cultural Expression Elective	
CHEM 1110 Chemistry I		4	Social/Behavioral Science Elective	
ENGR 1110 Engineering Graphics		2	MATH 1920 Calculus II	
Humanities/Fine Arts Elective		3	CHEM 1120 Chemistry II	
Humanities and Cultural Expression Elective				
Course	Cr. Hrs.		Course	Cr. Hrs.
SOPHOMORE YEAR				
Semester: Fall		Total Credit Hours: 17	Semester: Spring	
Social/Behavioral Science Elective		3	COMM 2025 or PC 2500 Communication	
ENGL 2130, 2230, or 2330 Literature		3	MATH 2120 Differential Equations	
Digital/Financial Literacy Elective			CEE 3413 Environmental Engineering	
MATH 2110 Calculus III		4	CEE 3110 Mechanics of Materials	
PHYS 2110 Physics I		4	ME 2330 Dynamics	
CEE 2110 Statics		3	CEE (ENGR) 3710 Engineering Economics	
Course	Cr. Hrs.		Course	Cr. Hrs.
JUNIOR YEAR				
Semester: Fall		Total Credit Hours: 15	Semester: Spring	
CEE 3600 Surveying		3	CEE 3610 Transportation Engineering	
CEE 3415 or ME 3720 Fluid Mechanics		3	CEE 3420 Hydraulics	
CEE 3320 Structural Mechanics		3	CEE 4310 or CEE 4320	
CEE 3030 Civil Engineering Materials		3	CEE 3040 Geotechnical Engineering Lab	
CEE 3500 Construction Engineering		3	CEE 4800 Geotechnical Engineering	
			GEOL 3210 Geology for Engineers	
Course	Cr. Hrs.		Course	Cr. Hrs.
SENIOR YEAR				
Semester: Fall		Total Credit Hours: 15 or 16	Semester: Spring	
CEE 4920 Professionalism and Ethics		1	CEE 4950 Senior Design	
CEE 4940 Fundamentals of CEE		0	CEE Lab Elective ⁵	
CEE (ENGR) 3720 or MATH 3470 Statistics		2 or 3	Technical Elective ³	
GEOL Elective ²		4	CEE Elective ⁴	
GEOL Elective ²		4	GEOL Elective ²	
GEOL Elective ²		4	CEE 4810 Foundation Engineering or CEE 4820 Retaining Walls	

Notes:

1. Optional course for first semester freshman only
2. GEOL Elective: GEOL 3120, GEOL 3230, GEOL 3310, GEOL 4110, GEOL 4120, GEOL 4150, GEOL 4210, GEOL 4300, GEOL 4711. Minimum of 15 credits GEOL courses required (exclusive of GEOL 3210).
3. Technical Elective: ENGR 1120, ~~ECE 2850~~, ~~ME 2210~~ ~~ME 3210~~, or CHE 3010
4. CEE Elective: Any 4000 level CEE course
5. CEE Lab Elective: CEE 3120 or CEE 3430; CEE 3430 preferred



Degree Map

CATALOG YEAR: 2026-2027

Degree: BSCE

MAJOR: Civil Engineering

Concentration: Construction Engineering and Management

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 16 (17)		Semester: Spring Total Credit Hours: 17	
ENGL 1010 Writing Composition I	3	ENGL 1020 Writing Composition II	3
CEE 1020 Connections to CEE ¹	1	Humanities/Fine Arts Elective	3
MATH 1910 Calculus I	4	Humanities and Cultural Expression Elective	
CHEM 1110 Chemistry I	4	MATH 1920 Calculus II	4
ENGR 1110 Engineering Graphics	2	CHEM 1120 Chemistry II ²	4
Humanities/Fine Arts Elective		Social/Behavioral Science Elective	3
Humanities and Cultural Expression Elective	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 18	
ENGL 2130, 2230, or 2330 Literature	3	COMM 2025 or PC 2500 Communication	3
Digital/Financial Literacy Elective		MATH 2120 Differential Equations	3
MATH 2110 Calculus III	4	CEE 3110 Mechanics of Materials	3
PHYS 2110 Physics I	4	CEE 3500 Construction Engineering	3
CEE 2110 Statics	3	CEE 3600 Surveying	3
CEE (ENGR) 3710 Engineering Economics	2	ME 2330 Dynamics	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 15	
CEE 3320 Structural Mechanics	3	CEE 3030 Civil Engineering Materials	3
CEE 3413 Environmental Engineering	3	CEE 3420 Hydraulics	3
CEE 3415 or ME 3720 Fluid Mechanics	3	CEE 4310 Steel Design	3
CEE 3610 Transportation Engineering	3	GEOL 3210 Geology for Engineers	3
CEE Lab Elective ³	1	CEM Elective ⁴	3
BMGT 3510 Management and Org Behavior	3		
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 15 or 16		Semester: Spring Total Credit Hours: 15 or 16	
CEE (ENGR) 3720 or MATH 3470 Statistics	2 or 3	CEE 4950 Senior Design	3
CEE 4320 Concrete Design	3	CEE Lab Elective ³	1
CEE 4800 Geotechnical Engineering	3	CEM Elective ⁴	3
CEE 4920 Professionalism and Ethics	1	CEM Elective ⁴	3
CEE 4940 Fundamentals of CEE	0	Social/Behavioral Science Elective	3
CEM Elective ⁴	3	Technical Elective ⁵	2 or 3
CEM Elective ⁴	3		

Take FE Exam

Notes:

1. Optional course for first semester freshman only
2. Students select either CHEM 1120 or PHYS 2120; CHEM 1120 preferred ~~Students who intend to pursue the environmental area of emphasis should take CHEM 1120~~
3. CEE Lab Elective: CEE 3040 (P: CEE 3030), CEE 3120 (P: CEE 3110), or CEE 3430 (C: CEE 3413)
4. Construction Engineering and Management Elective: CEE 4500-4599, ENGR (CEE) 4510, ACCT 3720, BMGT 3630, BMGT 4410, BMGT 4520.
At least 3 of 5 courses must be CEE (ENGR) courses.
5. Technical Elective: ENGR 1120, ~~ECE 2850~~, ME 2210 ~~ME 3210~~, or CHE 3010 (*fall only*)

23c. CIVIL AND ENVIRONMENTAL ENGINEERING – 7 COURSE CHANGES

FROM:

CEE 4990 – Special Problems

Credit 1-4.

~~Current topics in the student's area of interest. May not be repeated to improve a grade.~~

TO:

CEE 4990 – Special Problems

Credit 1-4.

Current topics in civil and environmental engineering as an experimental course. Prerequisites may vary depending upon course topic. May be repeated if different topic.

Justification:

The existing CEE 4990 course has been used as a “catch-all” for independent study, undergraduate research, and trial courses. These changes will separate out categories as separate courses consistent with graduate level changes in an effort to improve faculty workload modeling.

FROM: CEE 3500 Intro to Construction Engineering and Management Credit 3.

~~Prerequisite: CEE 3710~~

The design and management of the construction phase of a project: scheduling, estimating, contracts, laws, financing, and safety

TO:

CEE 3500 Intro to Construction Engineering and Management

Credit 3.

Prerequisite: Junior standing

The design and management of the construction phase of a project: scheduling, estimating, contracts, laws, financing, and safety

Justification:

The course content has been revised such that CEE 3710 Engineering Economics is no longer needed as a prerequisite. Any necessary topical knowledge is reviewed in subsequent courses.

FROM:

CEE 3320 Structural Mechanics

Credit 3. ~~Lec 2. Rec 2.~~

Prerequisite: CEE 3110

Analysis of statically determinate and indeterminate structures, influence lines, and moving loads. Classical and computer methods.

TO:

CEE 3320 Structural Mechanics

Credit 3. Lec 3.

Prerequisite: CEE 3110

Analysis of statically determinate and indeterminate structures, influence lines, and moving loads. Classical and computer methods.

FROM:

CEE 4310 Structural Steel Design

Credit 3. ~~Lec 2. Rec 2.~~

Prerequisite: CEE 3320

Design of members and structures in steel. Analysis and design of beams, tension members, compression members, members with combined stresses, and standard connections.

TO:

CEE 4310 Structural Steel Design

Credit 3. Lec 3.

Prerequisite: CEE 3320

Design of members and structures in steel. Analysis and design of beams, tension members, compression members, members with combined stresses, and standard connections.

FROM:

CEE 4320 Reinforced Concrete Design

Credit 3. ~~Lec 2. Rec 2.~~

Prerequisite: CEE 3320

Design of members and structures in concrete. Design of beams, slabs, columns, and footings.

TO:

CEE 4320 Reinforced Concrete Design

Credit 3. Lec 3.

Prerequisite: CEE 3320

Design of members and structures in concrete. Design of beams, slabs, columns, and footings.

FROM:

CEE 4370 Masonry Design

Credit 3. ~~Lec 2. Rec 2.~~

Prerequisite: CEE 3030 and CEE 4320

Masonry materials and construction. Design of masonry beams, walls, and columns. Seismic design of masonry structures.

TO:

CEE 4370 Masonry Design

Credit 3. Lec 3.

Prerequisite: CEE 3030 and CEE 4320

Masonry materials and construction. Design of masonry beams, walls, and columns. Seismic design of masonry structures.

Justification:

Previously, "recitation" sections increased the number of contact hours to 4, just for structural engineering courses. These sections were not fully utilized while also creating a lot of scheduling issues for students (and the department). As such, in agreement with faculty teaching these courses, the format is requested to move to a traditional 3 hour lecture format, in alignment with all other CEE courses.

FROM:

CEE 4550 Building Information Modeling

Credit 3. Lec 3.

Prerequisite: ENGR 1110 and ~~CEE 4310 or CEE 4320~~ (CEE 4310 or CEE 4320 may be taken concurrently)

Building configuration, layout, and modeling in steel, concrete, and masonry.

TO:

CEE 4550 Building Information Modeling

Credit 3. Lec 3.

Prerequisite: ENGR 1110 and CEE 4310 (CEE 4310 may be taken concurrently)

Building configuration, layout, and modeling for steel structures.

Justification:

After teaching for a couple years, course content has evolved to focus just on steel structures. As such, CEE 4310 Structural Steel Design should be the primary prerequisite (removing CEE 4320 Reinforced Concrete Design).

Effective Date: Fall 2026

Financial Impact: None

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

23d. CIVIL AND ENVIRONMENTAL ENGINEERING - Addition of Minor in Construction Management

The Department is proposing a new minor in Construction Management to provide students with the opportunity to expand their knowledge base in coursework specific to construction. This minor is differentiated from minors in Business Management or Project Management by focusing on the construction aspects, though all are complementary. This minor will complement the existing Construction Engineering and Management concentration in the department.

Graduates with construction experience and/or knowledge are in tremendous demand currently. The CEE department has collaborated with the Career for Development to host multiple construction-specific career fairs in conjunction with the broader university and engineering career fairs.

As such, it is proposed that a minor in Construction Management consist of the following:

Students must complete fifteen (15) semester hours of courses related to construction-related topics including:

CEE 3500 – Intro to Construction Engineering and Management

and twelve (12) upper division hours (at least 9 hours must be in engineering) from:

Any course numbered CEE 4500-4599, including but not limited to,

CEE 4520 Construction Estimating and Cost Control

CEE 4525 Construction Project Planning, Scheduling, and Control

CEE 4530 Construction Safety

CEE 4535 Construction Operations, Materials, and Methods

ENGR (CEE) 4510 Engineering Management

ACCT 3720 Survey of Accounting

BMGT 3510 Management and Organizational Behavior

Students pursuing a Bachelor of Science in Civil Engineering should instead pursue the department's concentration in Construction Engineering and Management.

Justification:

The Department is proposing a new minor in Construction Management to provide students with the opportunity to expand their knowledge base in coursework specific to construction. This minor is differentiated from minors in Business Management or Project Management by focusing on the construction aspects, though all are complementary. This minor will complement the existing Construction Engineering and Management concentration in the department.

Graduates with construction experience and/or knowledge are in tremendous demand currently. The CEE department has collaborated with the Career for Development to host multiple construction-specific career fairs in conjunction with the broader university and engineering career fairs.

Financial Impact: None

Effective Date: Fall 2026

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

24A. EXERCISE SCIENCE – 87 COURSE CHANGES

Subject: Catalog changes making all PHED activity courses lab experiences and update course descriptions

Justification: These changes will ensure all PHED activity courses are classified as lab experiences (which they are) and alleviate issues at accreditation time. Updating descriptions will create a better opportunity for students to know what the course is about.

Financial Implications: None

Effective Date: Fall 2026

Change:

1. From: PHED 1000 - Modified Seasonal Sports. Cr 1. This course is designed for students to learn and understand modifications that are available for an assortment of sporting activities. Students will learn to modify equipment and design rules and regulations that meet the needs of individuals with physical or mental disabilities.

TO: PHED 1000 – Modified Seasonal Sports. **Lab 2, Cr. 1. Designed for students to learn and understand modifications that are available for multiple sporting activities. Focus is on modification of equipment and designing rules and regulations that meet the needs of individuals with physical or mental disabilities.**

2. From: PHED 1002 – Physical Fitness Test. Cr. 0. This is a 0 credit course that will not affect your GPA. However, this course is intended to ensure quality participation in the required yearly fitness test. All EXPW majors are required to take this test once per academic year. The 6 aspects of physical fitness will be evaluated. These aspects are cardiovascular endurance, muscular power, muscular endurance, muscular strength, flexibility, and body composition.

TO: PHED 1002 – Physical Fitness Test. Cr. 0. **Exercise Science majors are required to complete the physical fitness test once per academic year. Six aspects of physical and health related fitness are assessed (cardiovascular endurance, muscular power, muscular strength, muscular endurance, flexibility and body composition). This course does not affect GPA but is linked to graduation.**

3. From: PHED 1005 – Lifetime Fitness and Wellness Cr. 2. This course is designed to explore and apply principles of lifetime physical fitness, with a key focus on optimal wellness, nutrition and disease prevention. Online delivery method.

TO: PHED 1005 – Lifetime Fitness and Wellness. **Lab 4, Cr. 2. Designed to explore and apply principles of lifetime physical fitness, this course also includes covers the impact of nutrition and disease prevention as related to optimal individual wellness.**

4. From: PHED 1010 – Tennis. Lec 2, Cr. 1
TO: PHED 1010 – Tennis. Lab 2, Cr. 1

5. From: PHED 1015 – Beginning Yoga. Lec. 1, Cr. 1. This course is designed for the student who has little or no prior experience practicing yoga. Simple yoga poses and controlled breathing techniques are included to calm the mind and strengthen the body. Students will need to have their own yoga mat.

TO: PHED 1015 – Beginning Yoga. Lab 2, Cr. 1. This course introduces beginners to the basic practices of yoga, including foundational postures, breathing techniques, and relaxation. Emphasis is placed on safe movement, body awareness, and stress reduction. No previous yoga experience is required. Students should plan to have their own yoga mat.

6. From: PHED 1020 – Swimming. Lec 2, Cr 1. This course is designed for non-swimmer or beginning swimmers to develop skills of swimming. Swimming pool/water safety will be addressed, and students will learn to float and execute swim strokes including but not limited to the front crawl, back crawl and elementary backstroke.

TO: PHED 1020 – Swimming. Lab 2, Cr. 1. This course introduces students to fundamental swimming skills with an emphasis on water safety, stroke development, and cardiovascular fitness. Instruction includes basic aquatic skills, breathing techniques, floating, and introductory stroke mechanics. The course promotes confidence in the water, physical conditioning, and lifelong participation in swimming. No prior swimming experience is required.

7. From: PHED 1021 – Intermediate Swimming. Cr. 1.

TO: PHED 1021 – Intermediate Swimming. Lab 2, Cr. 1.

8. From: PHED 1022 – Survival Swimming. Lec 1, Cr. 1. Designed to develop basic survival swimming proficiency while challenging the aquatic ability of all classifications of swimmers. For beginners, low and high intermediate swimmers, the course is divided into two parts: basic stroke development and combat survival swimming. Emphasis on breath control, basic locomotion, buoyancy positions, and stroke refinement.

TO: PHED 1022 – Survival Swimming. Lab 2, Cr. 1. This course focuses on essential survival swimming and water safety skills designed to prepare students for emergency aquatic situations. Instruction emphasizes self-rescue techniques, floating and treading water, controlled breathing, basic lifesaving movements, safe entries and exits, and survival strategies in open-water and pool environments. The course promotes confidence, decision-making, and physical conditioning while reinforcing principles of personal safety and risk management. No prior swimming experience is required.

9. From: PHED 1025 – Advanced Yoga. Lec 1, Cr. 1.

TO: PHED 1025 – Advanced Yoga. Lab 2, Cr. 1.

10. From: PHED 1030 – Bowling. Lec. 2, Cr 1.

TO: PHED 1030 – Bowling. Lab 2, Cr. 1.

11. From: PHED 1031 – Advanced Bowling. Lec. 2, Cr. 1.

TO: PHED 1031 – Advanced Bowling. Lab 2, Cr. 1.

12. From: PHED 1035 – Pickleball. Lec. 1, Cr. 1. This course is for students who enjoy racquet/paddle games. Pickleball is a net game that is similar to tennis and ping pong. Played on a court similar to badminton, pickleball is played with a wooden paddle and a plastic ball - like a wiffleball. Skills and rules are easy to learn and pickleball is a fun and competitive way to be active.

TO: PHED 1035 – Pickleball. Lab 2, Cr. 1. This course introduces students to the fundamental skills, rules, and strategies of pickleball. Emphasis is placed on proper technique, court positioning, scoring, and game play. Students will learn rules, etiquette, and safety practices while developing hand-eye coordination, agility, and cardiovascular fitness. The course promotes lifelong participation in pickleball as a recreational sport. No prior pickleball experience is required.

13. From: PHED 1040 – Archery. Lec 2, Cr 1.

TO: PHED 1040 – Archery. Lab 2, Cr. 1.

14. From: PHED 1050 – Basketball for Women. Lec 2, Cr. 1. This course introduces the fundamental skills of basketball for women. Emphasis is placed on skill development, rules and fair play. Dribbling, passing, shooting and offensive and defensive strategies are among skills that will be focused on throughout the duration of the class. The main goal of the class is to strive for improvement in every aspect of the game of basketball.

TO: PHED 1050 – Basketball for Women. Lab 2, Cr. 1. This course provides instruction in the fundamental skills, rules, and strategies of basketball in a supportive learning environment for women. Emphasis is placed on skill development including dribbling, passing, shooting, defense, and team play. Instruction also includes rules, safety practices, and sportsmanship. The course promotes physical fitness, confidence, teamwork, and lifelong participation in basketball. No prior basketball experience is required.

15. From: PHED 1061 – Ninja Training. Lec 1, Cr. 1. Test of skills, techniques and abilities related to upper body strength, agility, grip strength, leg power and more.

TO: PHED 1061 – Ninja Training. Lab 2, Cr 1. Designed for students seeking an exciting and challenging fitness experience, this course blends functional training with obstacle-based movement inspired by ninja athletics. Students will develop strength, speed, agility, balance, and mental toughness through hands-on training sessions and progressive challenges. The course emphasizes creativity in movement, perseverance, and safe training practices while fostering teamwork and confidence. No prior ninja experience required.

16. From: PHED 1062 – Cardio Conditioning. Lec. 1, Cr. 1.

TO: PHED 1062 – Cardio Conditioning. Lab 2, Cr. 1.

17. From: PHED 1065 – Recreational Games. Lec 1, Cr. 1.

TO: PHED 1065 – Recreational Games. Lab 2, Cr. 1.

18. From: PHED 1070 – Volleyball. Lec 2, Cr. 1. This course is designed to help students learn to play the game of volleyball using the proper technique, strategies and scoring. Students will demonstrate the skills of passing, setting and serving, as well as the knowledge of rotations of the players and each position's responsibilities, and how to keep score.

TO: PHED 1070 – Volleyball. Lab 2, Cr. 1. This course introduces students to the fundamental skills, rules, and strategies of volleyball. Emphasis is placed on skill development including serving, passing, setting, attacking, and defensive play. Instruction also covers rules, safety practices, teamwork, and sportsmanship. The course promotes physical fitness, coordination, and lifelong participation in volleyball. No prior volleyball experience is required.

19. From: PHED 1080 – Racquetball/Handball. Lec 2, Cr. 1.

TO: PHED 1080 – Racquetball/Handball. Lab 2, Cr. 1.

20. From: PHED 1090 – Softball. Lec 2, Cr. 1.

TO: PHED 1090 – Softball. Lab 2, Cr. 1.

21. From: PHED 1100 – Golf. Lec 2, Cr. 1. This course is designed to give students the opportunity to learn the basic strokes and rules of game play for golf. Which clubs to use when and score keeping are included.

TO: PHED 1100 – Golf. Lab 2, Cr. 1. This course introduces students to the fundamental skills, rules, and etiquette of golf. Emphasis is placed on basic swing mechanics, putting, chipping, pitching, and course management. Instruction includes proper equipment use, safety practices, scoring procedures, and sportsmanship. The course promotes physical fitness, skill development, and lifelong participation in golf. No prior golf experience is required.

22. From: PHED 1101 – Advanced Golf. Cr 1. This course is for students who have completed PHED 1100 or have basic golf skills. Continuing to improve strokes and perfect golf skills as well as gaining knowledge of game play strategies is included.

TO: PHED 1101 – Advanced Golf. Lab 2, Cr. 1. This course builds upon the fundamental skills and knowledge developed in PHED 1100 and is designed for students seeking advanced instruction in golf. Emphasis is placed on refining swing mechanics, improving short-game performance, developing course management strategies, and applying advanced rules and etiquette. Students will engage in structured practice and on-course play to enhance consistency, decision-making, and overall performance.

23. From: PHED 1110 – Badminton. Lec 2, Cr 1.

TO: PHED 1110 – Badminton. Lab 2, Cr 1.

24. From: PHED 1120 – Ballroom Dance. Lec 2, Cr. 1.

TO: PHED 1120 – Ballroom Dance. Lab 2, Cr. 1.

25. From: PHED 1121 – Ballroom Dance II. Lec 1, Cr. 1.

TO: PHED 1121 – Ballroom Dance II. Lab 2, Cr. 1.

26. From: PHED 1135 – Survey of Team Sports. Lec 1, Cr 1.
TO: PHED 1135 – Survey of Team Sports. **Lab 2, Cr. 1.**
27. From: PHED 1136 – Survey of Individual/Dual Sports. Lec 1, Cr. 1.
TO: PHED 1136 – Survey of Individual/Dual Sports. **Lab 2, Cr. 1.**
28. From: PHED 1150 – Riflery. Lec 2, Cr. 1.
TO: PHED 1150 – Riflery. **Lab 2, Cr. 1.**
29. From: PHED 1160 – Scuba and Skin Diving. Lec 1, Cr 1.
TO: PHED 1160 – Scuba and Skin Diving. **Lab 2, Cr. 1.**
30. From: PHED 1170 – Kempo Karate. Lec 2, Cr. 1.
TO: PHED 1170 – Kempo Karate. **Lab 2, Cr 1.**
31. From: PHED 1171 – Kempojutsu. Cr. 1
TO: PHED 1171 – Kempojutsu. **Lab 2, Cr 1.**
32. From: PHED 1172 – Tai Chi/Qigong. Cr. 1
TO: PHED 1172 – Tai Chi/Qigong. **Lab 2, Cr 1.**
33. From: PHED 1173 – Samurai Sword – Iaijutsu/kenjutsu Cr. 1
TO: PHED 1173 - Samurai Sword – Iaijutsu/kenjutsu. **Lab 2, Cr. 1.**
34. From: PHED 1180 – Self Defense for Women. Lec 2, Cr. 1.
TO: PHED 1180 – Self Defense for Women. **Lab 2, Cr 1.**
35. From: PHED 1190 – Water Aerobics. Lec. 2, Cr. 1
To: PHED 1190 – Water Aerobics. **Lab 2, Cr. 1.**
36. From: PHED 1200 – Beginning Foil Fencing. Lec 2, Cr 1.
TO: PHED 1200 – Beginning Foil Fencing. **Lab 2, Cr. 1.**
37. From: PHED 1220 – Active Lifestyle and Health. Lec 1, Cr. 1.
TO: PHED 1220 – Active Lifestyle and Health. **Lab 2, Cr 1.**
38. From: PHED 1221 – Fitness Walking. Cr. 1
TO: PHED 1211 – Fitness Walking. **Lab 2, Cr. 1.**

This course introduces students to fitness walking as a safe and effective form of physical activity. Emphasis is placed on proper walking technique, posture, pacing, and goal setting to improve cardiovascular fitness. The course promotes lifelong physical activity, wellness, and healthy lifestyle habits.

39. From: PHED 1230 – Map Reading/Orienteering. Lec 2, Cr. 1.
TO: PHED 1230 – Map Reading/Orienteering. Lab 2, Cr. 1.
40. From: PHED 1240 – Soccer. Lec 2, Lab 1. This course is designed for beginners as well as seasoned players to be able to participate in the game of soccer. Basic skills and drills will be used to teach or reinforce necessary soccer skills. In addition, rules of play, positions and offensive and defensive strategies will be covered. By the end of the course students should feel confident in participating in recreational soccer.
TO: PHED 1240 – Soccer. Lab 2, Cr 1. This course introduces students to the fundamental skills, rules, and strategies of soccer. Emphasis is placed on skill development including dribbling, passing, shooting, ball control, and defensive play. Instruction also includes rules, safety practices, teamwork, and sportsmanship. The course promotes cardiovascular fitness, coordination, and lifelong participation in soccer. No prior soccer experience is required.
41. From: PHED 1250 – Beginning West African Dance. Lec. 2, Cr. 1.
TO: PHED 1250 – Beginning West African Dance. Lab 2, Cr 1.
42. From PHED 1260 – Advanced West African Dance. Lec. 2, Cr. 1.
TO: PHED 1260 – Advanced West African Dance. Lab 2, Cr. 1.
43. From: PHED 1265 – Kickboxing. Lec 1, Cr. 1.
TO: PHED 1265 – Kickboxing. Lab 2, Cr. 1.
44. From: PHED 1275 – Disc Golf. Lec 1, Cr. 1.
TO: PHED 1275 – Disc Golf. Lab 2, Cr. 1.
45. From: PHED 1280 – Kayaking. Lec 1, Cr. 1.
TO: PHED 1280 – Kayaking. Lab 2, Cr. 1.
46. From: PHED 1290 – Basketball for Men. Lec 2, Cr. 1.
TO: PhED 1290 -Basketball for Men. Lab 2, Cr. 1
47. From: PHED 1370 – Weight Training & Physical Fitness. Lec 2, Cr. 1.
TO: PHE 1370 – Weight Training & Physical Fitness. Lab 2, Cr. 1.
48. From: PHED 1371 – Advanced Weight Training & Physical Fitness. Cr. 1.
TO: PHED 1371 – Advanced Weight Training & Physical Fitness. Lab 2, Cr. 1.
49. From: PHED 1372 – Weight Training/Physical Fitness for Women Cr. 1.
TO: PHED 1372 - Weight Training/Physical Fitness for Women. Lab 2, Cr. 1.
50. From PHED 1373 – Core Stability Training. Lec 1, Cr. 1. Develop core strength using Swiss exercise balls, bands and isometric exercise.

TO: PHED 1373 – Core Stability Training. Lab 2, Cr. 1. This course emphasizes core strength and stability through structured exercises focused on posture, balance, and injury prevention. Instruction highlights proper technique and safe training practices.

51. From: PHED 1374 – Cross Training. Cr. 1.
TO: PHED 1374 – Cross Training. Lab 2, Cr. 1.
52. From: PHED 1375 – Crossfit. Lec 1. Cr. 1.
TO: PHED 1375 – Crossfit. Lab 2, Cr. 1.
53. From: PHED 1390 – Firearm Safety, Hunting, Outdoors. Lec.2, Cr. 1.
TO: PHED 1390 – Firearm Safety, Hunting, Outdoors. Lab 2, Cr. 1.
54. From: PHED 1440 – Skeet and Trap Shooting. Lec. 2, Cr. 1.
TO: PHED 1440 – Skeet and Trap Shooting. Lab. 2, Cr. 1.
55. From: PHED 1441 – Skeet and Trap Shooting Competition. Lec 2, Cr. 1.
TO: PHED 1441 – Skeet and Trap Shooting Competition. Lab 2, Cr. 1.
56. From: PHED 1470 – Handgun Familiarity & Safety. Lec 2, Cr. 1.
TO: PHED 1470 – Handgun Familiarity & Safety. Lab 2, Cr. 1.
57. From: PHED 1505 – Divemaster. Lec 2, Cr. 2.
TO: PHED 1505 – Divemaster. Lab 4, Cr. 2.
58. From: PHED 1520 – Canoeing – Camping. Lec 2, Cr. 1.
TO: PHED 1520 – Canoeing – Camping. Lab 2, Cr. 1.
59. From: PHED 1530 – Backpacking – Camping. Lec 2, Cr. 1.
TO: PHED 1530 – Backpacking – Camping. Lab 2, Cr. 1.
60. From: PHED 1540 – Rescue Diver. Lec 1, Lab 2, Cr 2.
TO: PHED 1540 – Rescue Diver. Lab 4, Cr. 2.
61. From: PHED 1550 – Advanced Open Water Scuba Diving. Lec 2, Cr. 1.
TO: PHE 1550 – Advanced Open Water Scuba Diving. Lab 2, Cr. 1.
62. From: PHED 1570 – Bicycle Touring. Lec 2, Cr. 1.
TO: PHED 1570 – Bicycle Touring. Lab 2, Cr. 1.
63. From: PHED 1575 – Indoor Cycling/Spin. Lec 1, Cr. 1.
TO: PHED 1575 – Indoor Cycling/Spin. Lab 2, Cr. 1.
64. From: PHED 1590 – Backcountry Adventure I. Lec 2, Cr. 1.
TO: PHED 1590 – Backcountry Adventure I. Lab 2, Cr. 1.
65. From: PHED 1600 – Backcountry Adventure II. Lec 2, Cr. 1.
TO: PHED 1600 – Backcountry Adventure II. Lab 2, Cr. 1.
66. From: PHED 1610 – Challenge Course/Team Building. Lec 2, Cr. 2
TO: PHED 1610 – Challenge Course/ Team Building. Lab 4, Cr. 2.

67. From: PHED 1620 – Bouldering Movement/Technique. Lec 1, Cr. 1.
TO: PHED 1620 – Bouldering Movement/Technique. **Lab 2, Cr. 1.**
68. From: PHED 1630 – Basic Caving. Lec 1, Cr. 1.
TO: PHED 1630 – Basic Caving. **Lab 2, Cr. 1.**
69. From: PHED 1640 – Mountain Bike Skills. Lec. 1, Cr. 1.
TO: PHED 1640 – Mountain Bike Skills. **Lab 2, Cr. 1.**
70. From: PHED 1650 – Outdoor Water Skills. Lec. 1, Cr. 1.
TO: PHED 1650 – Outdoor Water Skills. **Lab 2, Cr. 1.**
71. From: PHED 2100 – Lifeguard Training. Lec. 1 to 2, Cr. 2.
TO: PHED 2100 – Lifeguard Training. **Lab 4, Cr. 2.**
72. From: PHED 3050 – Water Safety Instructor. Cross-listing: EXPW 3050. Lec 2, Cr. 2.
TO: PHED 3050 – Water Safety Instructor. Cross-listing: EXPW 3050. **Instruction in senior lifesaving; parts 1 & 2 of the instructor’s training course in water safety. Lec 1, Lab 2, Cr. 2.**

73. From: PHED 1870 – Varsity Softball. Credit 1.

Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1870 – Varsity Softball. Credit 1.

Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

74. From: PHED 1880 – Varsity Riflery. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1880 – Varsity Riflery. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

75. From: PHED 1900 – Varsity Volleyball. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1900 – Varsity Volleyball. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

76. From: PHED 1910 – Varsity Football. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1910 – Varsity Football. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

77. From: PHED 1920 – Varsity Basketball for Men. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1920 – Varsity Basketball for Men. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

78. From: PHED 1923 – Varsity Basketball for Women. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1923 – Varsity Basketball for Women. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

79. From: PHED 1930 – Varsity Baseball. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for

licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1930 –Varsity Baseball. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

80. From: PHED 1940 – Varsity Tennis – Men. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1940 – Varsity Tennis – Men. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

81. From: PHED 1953 – Varsity Golf – Women. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1953 – Varsity Golf – Women. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

82. From: PHED 1956 – Varsity Golf – Men. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1956 – Varsity Golf – Men. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

83. From: PHED 1963 – Varsity Cross Country – Women. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1963 – Varsity Cross Country – Women. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward~~

~~licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

84. From: PHED 1966 – Varsity Cross Country – Men. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1966 – Varsity Cross Country – Men. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

85. From: PHED 1970 – Varsity Soccer. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1970 – Varsity Soccer. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

86. From: PHED 1980 – Varsity Track & Field – Women. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1980 – Varsity Track & Field – Women. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

87. From: PHED 1990 – Varsity Cheerleading. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.

TO: PHED 1990 – Varsity Cheerleading. Credit 1. Only varsity athletes and cheerleaders may enroll in varsity sports courses. ~~Those who are working toward licensure in Health and Physical education may use only one credit hour of the Varsity Sports series for licensure purposes. Only three semesters of varsity sports can be taken without a repeat card.~~

24b. EXERCISE SCIENCE – 1 NEW COURSE, 2 COURSE DELETIONS

Justification: Adding a new course and deleting an obsolete course to update the PHED inventory of coursesl

Financial Implications: None

Effective Date: Fall

2026 Add:

PHED 1905 - Varsity Sand Volleyballl Credit 1l

Only varsity athletes and cheerleaders may enroll in varsity sports coursesl

Justification: There is a new varsity sand volleyball sport at Tennessee Techl These athletes need the option to count their time as a varsity athlete in this sport like all othersl

Delete:

1 PHED 1 01 1 - Intermediate Tennisl Credit 1

Justification: This course has not been taught in many years therefore we ask to take it out of our inventoryl

2 PHED 1 943 - Varsity Tennis for Womenl Credit l

Justification: There is no longer varsity tennis for women offered at Tech! therefore there is no need for this course.

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

25a. NUCLEAR ENGINEERING – 9 NEW COURSES, 3 COURSE CHANGES, 6 COURSE DELETIONS

The Nuclear Engineering Program is seeking approval for multiple changes to the BSNE curriculum to meet the University's new General Education requirements and to revise the BSNE degree to reflect the lessons learned and faculty expertise accumulated since the start of the program in the 2024-2025 Academic Year. The curriculum revisions are described in a separate memorandum. The course additions (9), changes (3), and deletions (6) are detailed below.

I. COURSE ADDITIONS, CHANGES, AND DELETIONS

A. COURSE ADDITIONS

1. NE 2130: Nuclear Regulation and Safety

Lec. 3. Cr. 3.

Proposed Prerequisites: NE 2110

Introduces students to how nuclear technologies are governed to ensure safety, reliability, and public trust. Examines the roles of laws, regulations, standards, and guidance in shaping nuclear facility design, operation, and oversight. Students study concepts such as defense in depth, qualification of structures and components, and the development and maintenance of a facility licensing basis. Extends this perspective to later phases of the nuclear facility life cycle, including license renewal, decommissioning, transportation of nuclear materials, and management of radioactive waste and spent fuel. Learning activities focus on understanding

regulatory frameworks, evaluating safety decisions, and connecting technical systems to institutional processes.

JUSTIFICATION

This is a new course added to bring the first two years of the BSNE curriculum into alignment with the American Nuclear Society's "Certified Nuclear Professional" learning objectives. Focusing on codes, standards, and regulations early in the NE coursework will provide students a strong foundation for developing as nuclear engineers as well as providing a pathway for students outside the BSNE degree to pursue a career in nuclear energy.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

2. NE 3220: Computational Methods for Nuclear Engineers

Lec. 3. Cr. 3.

Proposed Prerequisites: NE 3210, ME 3710, ME 3720, MATH 3470

Introduces computational methods used to model and analyze systems in nuclear engineering. Develops understanding of how numerical approaches are used to represent physical processes such as particle transport, heat transfer, structural behavior, and fluid flow. Students learn the principles behind methods such as Monte Carlo simulation, finite element analysis, and computational fluid modeling, and apply these methods to representative problems in nuclear engineering. The course also emphasizes verification and validation of computational models and the interpretation of simulation results. Learning activities focus on building and executing computational models, working within a command line environment, and communicating technical results.

JUSTIFICATION

This is a new course based on the experience and input of the nuclear engineering faculty. The course will replace the mechanical engineering analysis course (ME 3001 "Mechanical Engineering Analysis") with a course that is directly focused on the computational methods used in nuclear engineering practice.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

3. NE 3230: Radiation Detection and Measurement

Lec. 3. Cr. 3.

Proposed Prerequisites: NE 2120, MATH 3470 (may be taken concurrently)

Introduces the principles used to detect and measure radiation in scientific and engineering applications. Develops understanding of radiation sources, radiation

interactions, and the operation of common detection systems. Students examine how electronic instrumentation and statistical methods are used to collect and interpret radiation measurements. Laboratory activities emphasize proper measurement techniques, analysis of experimental data, and clear presentation of procedures, results, and conclusions.

JUSTIFICATION

This course is a renumbering/renaming of NE 4110 based on the input of the nuclear engineering faculty. The course name and description have been updated to better reflect the learning objectives and content of the course.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

4. NE 3240: Nuclear Reactor Engineering

Lec. 3. Cr. 3.

Proposed Prerequisites: NE 3210, ME 3710, ME 3730

Introduces how nuclear reactors are designed and operated to produce energy safely and reliably. Develops understanding of major reactor systems and safety systems and how design principles such as defense in depth guide reactor operation and protection. Students examine how heat is generated in reactor fuel and how thermal and fluid systems remove this heat during normal operation and transient conditions. Topics include coolant flow behavior, heat transfer in reactor cores, power distribution, and the role of thermal limits in maintaining safety margins. The course also explores accident scenarios, lessons learned from historical reactor accidents, and the use of probabilistic risk assessment to evaluate reactor safety. Learning activities emphasize analysis of reactor behavior, interpretation of thermal hydraulic performance, and evaluate reactor performance.

JUSTIFICATION

This course will contain most of the content from NE 3210 (“Nuclear Reactor Safety/Analysis”), which is being rewritten prior to its first delivery based on the input of the nuclear engineering faculty. The new version of NE 3210 will reflect the current content of NE 4210 (“Nuclear Reactor Theory/Analysis”), which is being deleted.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

5. NE 4211: Nuclear Engineering Design I

Lec. 3. Cr. 3.

Proposed Prerequisites: NE 3220, NE 3240

Principles of engineering design with emphasis on nuclear energy systems. Project proposal writing, preliminary design, supporting analyses and drawings.

JUSTIFICATION

This course is a renumbering/renaming of NE 4310 based on the input of the nuclear engineering faculty. The course name and description have been updated to better reflect the learning objectives and content of the course.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

6. NE 4212: Nuclear Engineering Design II

Lec. 3. Cr. 3.

Proposed Prerequisites: NE 4211

Design, development, and demonstration as applied to a nuclear energy system component, instrumentation, device. The use of software platforms, equipment needed to complete the design and demonstration, and other tools (such as 3-D printing) should be part of the design tasks. Consider non-nuclear components of a power plant or an experimental system. Preparation of a project final report and presentation are required.

JUSTIFICATION

This course is a renumbering/renaming of NE 4320 based on the input of the nuclear engineering faculty. The course name and description have been updated to better reflect the learning objectives and content of the course.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

7. NE 4230: Nuclear Reactor Operations

Lec. 3. Cr. 3.

Proposed Prerequisites: NE 3210, NE 3230

Provides students with practical experience in the operation and control of nuclear reactors in a controlled learning environment. Develops understanding of how reactor systems respond during startup, steady operation, shutdown, and transient conditions. Students apply concepts from reactor theory and engineering to monitor reactor behavior, interpret instrumentation, and make operational decisions. The course introduces standard operating procedures, technical specifications, and responses to off-normal conditions, emphasizing safe and disciplined reactor operation. Learning activities include team-based simulator exercises, analysis of reactor behavior, and communication of operational data and conditions.

JUSTIFICATION

This is a new course intended to replace NE 4120 (“Nuclear Engineering Lab II”) with a course directly relevant to providing hands-on experience to prepare students for the nuclear energy workforce. This course will focus on reactor operations and the unique aspects of nuclear systems, using nuclear reactor simulators and simulated control environments to provide students with a realistic reactor operating experience.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

8. NE 4240: Nuclear Fuel Cycle

Lec. 3. Cr. 3.

Proposed Prerequisites: NE 2120, NE 2130

Introduces how nuclear fuel is produced, used, and managed across the full nuclear fuel cycle. Develops understanding of the processes that transform natural uranium into reactor fuel and the technical, economic, and policy considerations that shape these processes. Students examine stages of the fuel cycle including resource extraction, enrichment, fuel fabrication, in-core fuel management, and the handling of spent nuclear fuel and radioactive waste. The course also considers trade-offs among different fuel cycle strategies, including once-through and recycling approaches, and their implications for cost, sustainability, safety, and proliferation. Learning activities emphasize systems-level analysis, evaluation of competing approaches, and communication of complex technical and policy issues.

JUSTIFICATION

New required course based on nuclear engineering faculty input. Needed to more effectively address one of the ABET program-specific criteria.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

9. NE 4400: Nuclear Energy Seminar

Lec. 1. Cr. 1.

Proposed Prerequisites: NONE

Topics related to nuclear energy systems and radiological engineering with emphasis on ongoing activities in the nuclear industry. Students are expected to develop an understanding of engineering ethics, life-long learning, energy independence and other topics. Learning activities include presentations by student teams and guest speakers on various topics.

JUSTIFICATION

This course is a renumbering/renaming of NE 4410 based on the input of the nuclear engineering faculty. The course name and description have been updated to better reflect the learning objectives and content of the course.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

B. COURSE CHANGES

1. NE 2110: Introduction to Nuclear Energy Systems

Proposed Name: "Introduction to Nuclear Energy"

Lec. 3. Cr. 3.

Current Prerequisites: PHYS 2120 or MATH 1910

Proposed Prerequisites: MATH 1730 (C or better) or ACT MATH 27 or better

Current Description: "Atomic structure; neutron interactions; reaction rates and nuclear power generation; nuclear fission; fast and thermal neutrons; multiplication factor and reactivity; computing effective multiplication factor; neutron moderation; pressurized water reactors; boiling water reactors; pressurized heavy water reactors; balance-of-plant systems; sodium fast reactors; molten salt reactors; gas-cooled reactors; nuclear plant capacity factor; fusion energy; advanced reactors; nuclear fuel cycle."

Proposed Description: “Introduces how nuclear energy is produced and why it plays an important role in modern society. Develops a conceptual understanding of radiation, nuclear reactions, and neutron behavior, and shows how these principles are used in engineered nuclear systems. Students examine representative reactor concepts, major design approaches, and the evolution of nuclear technologies to illustrate how different systems serve different goals. Places nuclear energy in context by exploring the nuclear fuel cycle and its role in supporting safe and effective energy production. Learning activities emphasize interpretation, comparison, and systems thinking to build a broad foundation for further study of nuclear energy.”

JUSTIFICATION

This course has been slightly revised based on three iterations of teaching it, including updates to bring it into alignment with the American Nuclear Society’s “Certified Nuclear Professional” learning objectives. The pre-requisites have been loosened to make the early NE curriculum more accessible to other Departments across the University.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

2. NE 2120: Introduction to Radiological Engineering and Detection

Proposed Name: “Radiation Protection and Safety”

Lec. 3. Cr. 3.

Current Prerequisites: PHYS 2120

Proposed Prerequisites: NE 2110

Current Description: “Radioactive decay and decay mechanisms; charged particles and energy transfer; biological effects of radiation, including radiation dose, dose equivalent, quality factors; radiation protection and exposure limits; radiation detection, radiation dosimetry, and radiation shielding; benefits and risks of radiation, and communication with the public.”

Proposed Description: “Provides students with the knowledge needed to understand how radiation affects people and how its use is managed safely. Focuses on radioactive decay, radiation interactions, and the biological effects of exposure, leading to a practical understanding of dose and risk. Students explore how radiation is detected, measured, and controlled, and how time, distance, and shielding guide the safe use of radiation. Examines the benefits and risks of nuclear technologies and introduces the concept of nuclear safety culture and its development over time. Considers the importance of clear communication with nontechnical audiences. Activities emphasize applied reasoning, interpretation of measurements, and discussion of real world safety decisions.”

JUSTIFICATION

This course has been slightly revised based on the input of the NE faculty to bring it into alignment with the American Nuclear Society's "Certified Nuclear Professional" learning objectives. The pre-requisites have been loosened to make the early NE curriculum more accessible to students across the University.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

3. NE 3210: Nuclear Reactor Safety/Analysis

Proposed Name: "Nuclear Reactor Theory"

Lec. 3. Cr. 3.

Current Prerequisites: NE 2110

Proposed Prerequisites: MATH 1920, NE 2120 (may be taken concurrently), NE 2130 (may be taken concurrently)

Current Description: "Nuclear plant systems in PWRs, BWRs, SFRs and GCRs; safety systems and emergency core cooling systems in PWRs, BWRs, PHWRs & GCRs; nuclear reactor safeguard systems; defense-in-depth design; nuclear reactor accident scenarios; design-basis accidents (DBA) and beyond DBA; examples of major commercial reactor accidents (TMI-2, Chernobyl, Fukushima); indications of transients in operating reactors and emergency shutdown; regulatory issues related to reactor safety; study of reactor transients; elements of probabilistic risk assessment (PRA); thermal hydraulic and severe accident computer codes recommended by the NRC."

Proposed Description: "Introduces the physical principles and analytical methods used to describe neutron behavior in nuclear reactors. Develops understanding of nuclear fission, neutron interactions, moderation, and the energy distribution of neutrons in reactor systems. Students examine concepts such as multiplication factor, reactivity, and neutron flux, and learn how these quantities determine reactor behavior and power distribution. The course introduces mathematical models used to analyze reactor systems, including neutron transport and reactor kinetics. Learning activities emphasize development and application of analytical models to interpret neutron behavior and evaluate reactor performance."

JUSTIFICATION

This is a revision of the course prior to its first delivery based on the input of the nuclear engineering faculty. The new version of NE 3210 will largely reflect the content of NE 4210 ("Nuclear Reactor Theory/Analysis"), which is being deleted. This material needs to be presented earlier so that the students are ready for the capstone design course, as well as to prepare student for the new computational methods course (NE 3220 - "Computational Methods for Nuclear Engineers"). The previous contents of this course are being moved to the new NE 3240 ("Nuclear Reactor Engineering") course based.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

C. COURSE DELETIONS

1. NE 4110: Nuclear Engineering Lab I

Prerequisites: NE 2110 and ECE 2050. Radiation detection systems and measurements. Electronic devices associated with measurements. Statistical data analysis. Understand radiation sources, interactions, and various types of detectors. Develop laboratory skills and report writing, with emphasis on presentation of procedures, data, and results.

JUSTIFICATION

Course is being changed to NE 3230 ("Radiation Detection and Measurement") in the 2026-2027 curriculum revision. Content of NE 3230 will be largely the same as NE 4110.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

2. NE 4120: Nuclear Engineering Lab II

Prerequisites: NE 4110 and ECE 2050. Basic measurements of process parameters including, temperature, pressure, flow rate, liquid level and machinery vibration. Apply the fundamentals of digital signal processing to extract information from sensor signals, sensor calibration and measurement accuracy. Develop laboratory skills for measurements in a fluid flow loop system and to demonstrate basic heat transfer in a nuclear reactor. Develop report writing skills, with emphasis on laboratory procedures, data acquisition, and results.

JUSTIFICATION

Course is being changed to NE 4230 ("Nuclear Reactor Operations") in the 2026-2027 curriculum revision. The content of NE 4230 is updated to focus more on reactor instrumentation and control.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

3. NE 4210: Nuclear Reactor Theory/Analysis

Prerequisites: NE 3210 and ME 3001. Nuclear fission, chain reactions, elastic scattering, neutron cross sections, neutron moderation (slowing down), neutron energy spectrum, nuclear data; multiplication factor and reactivity; neutron transport equation; one-speed neutron diffusion model; point reactor kinetics equations and spatial effects in reactor kinetics; reactivity feedback effects; light water reactors and sodium fast reactors; multi-group diffusion theory; calculation of core power distribution.

JUSTIFICATION

The content of this course is being moved to NE 3210 (“Nuclear Reactor Theory”) based on the input of the nuclear engineering faculty. This material needs to be presented earlier so that the students are ready for the capstone design course.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

4. NE 4310: Senior Project I

Prerequisites: NE 3210 and NE 4110. Principles of engineering design with emphasis in contemporary industrial design processes. Economics analysis with underlying principles related to cost of money and bread-even analysis. Project proposal writing, preliminary design, supporting analyses and drawings with bill of materials ready to fabricate during the following semester. Preparation of a standard operating procedure (SOP) document as needed.

JUSTIFICATION

Course is renumbered/renamed to NE 4211 (“Nuclear Engineering Design I”) in the 2026-2027 curriculum revision. Content of NE 4211 will be the same as NE 4310.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

5. NE 4320: Senior Project II

Prerequisite: NE 4310. Design, development, and demonstration as applied to a nuclear energy system component, instrumentation device. The use of software platforms, equipment needed to complete the design and demonstration, and other tools (such as 3-D printing) should be part of the design tasks. Consider non-nuclear components of a power plant or an experimental system. Preparation of a project final report and presentation are required.

JUSTIFICATION

Course is renumbered/renamed to NE 4212 (“Nuclear Engineering Design II”) in the 2026-2027 curriculum revision. Content of NE 4212 will be the same as NE 4320.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

6. NE 4410: Senior Seminar

Prerequisites: Senior Standing. This course is designed for seniors in Nuclear Engineering. The course focuses on topics related to nuclear energy systems and radiological engineering with emphasis on ongoing activities in the nuclear industry. Students are expected to develop an understanding of engineering ethics, life-long learning, energy independence and others. Presentations by student teams and guest speakers on various topics.

JUSTIFICATION

Course is renumbered/renamed to NE 4400 (“Nuclear Energy Seminar”) in the 2026-2027 curriculum revision. Content of NE 4400 will be the same as NE 4410.

IMPACT ON FACULTY: NONE

EFFECTIVE DATE: Spring 2026

1. **NE 2130 – Nuclear Regulation and Safety**
2. **Credit hours:** 3
Contact hours: 3
Credit type: Engineering Topics
3. **Course coordinator:** Jeffrey King
4. **Textbook:** TTU-NE Open Educational Resources
5. **Course information:**

Catalog description	Introduces students to how nuclear technologies are governed to ensure safety, reliability, and public trust. Examines the roles of laws, regulations, standards, and guidance in shaping nuclear facility design, operation, and oversight. Students study concepts such as defense in depth, qualification of structures and components, and the development and maintenance of a facility licensing basis. Extends this perspective to later phases of the nuclear facility life cycle, including license renewal, decommissioning, transportation of nuclear materials, and management of radioactive waste and spent fuel. Learning activities focus on understanding regulatory frameworks, evaluating safety decisions, and connecting technical systems to institutional processes.
Prerequisites	NE 2110
Co-requisites	None
Course category	Required course for BSNE, Tier 1 (Nuclear Professional)

6. **Course Level Learning Objectives:**

CLLO	Course Outcome	ABET Student Outcomes
C.1.1	Understand the purposes of consensus standards (e.g., American Nuclear Society, American Society of Mechanical Engineers, Institute of Electrical and Electronics Engineers, American Society of Civil Engineers)	1,2,4,7
C.1.2	Distinguish how industry codes and standards are used in the design and the regulatory process	1,2,4,6,7
C.1.3	Explain the process of qualifying structures, systems, and components (SSCs) for their intended use	1,2,4,6
E.1.1	Understand the framework of laws and regulations that govern the commercial nuclear industry	1,2,4,7
E.1.2	Describe the key attributes of the 'defense in depth' approach to designing a nuclear facility	1,2,4,6
E.1.3	Describe the typical content of a commercial facility's licensing basis	1,2,4,6
E.1.4	Describe the process(es) available for changing the licensing basis of	1,2,4,6,7

	a facility	
E.1.5	Understand the key aspects of the Nuclear Regulatory Commission (NRC) license renewal process	1,2,4,7
E.1.6	Recognize specified guidance documents and explain the applicability of the guidance to a nuclear facility (e.g., describe how the guidance is used)	1,2,4,6,7
E.1.7	Understand the key concepts and terminology associated with the main operational aspects of regulating a nuclear power facility	1,2,4,6
E.1.8	Define key concepts related to the decommissioning of a nuclear facility	1,2,4,6
H.1.2	Recognize the unique requirements for transportation of nuclear materials	1,2,4,6,7
H.1.5	Describe the radioactive waste types in the U.S.	1,2,4
H.1.6	Understand the challenges with spent fuel waste management	1,2,4,6

ABET Student Learning Outcomes:

(Outcomes in **bold** are addressed in this course.)

SO No.	Description
SO1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
SO2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
SO3	an ability to communicate effectively with a range of audiences.
SO4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
SO5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
SO6	an ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
SO7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

7. Brief list of topics:

- Role of consensus standards, codes, and guidance in nuclear technology
- Relationship between engineering design, codes and standards, and regulatory oversight
- Qualification and classification of structures, systems, and components
- Regulatory framework governing commercial nuclear facilities
- Defense-in-depth as a design and licensing philosophy

- Licensing basis concepts and documentation
- Processes for modifying and maintaining a facility's licensing basis
- Oversight of operations and regulatory interfaces
- License renewal and life-extension considerations
- Decommissioning of nuclear facilities
- Transportation of nuclear materials
- Radioactive waste types and waste management challenges
- Spent fuel management and long-term disposition

1. **NE 3220 – Computational Methods for Nuclear Engineers**

2. **Credit hours:** 3
Contact hours: 3
Credit type: Engineering Topics

3. **Course coordinator:** Jeffrey King

4. **Textbook:** TTU-NE Open Educational Resources

5. **Course information:**

Catalog description	Introduces computational methods used to model and analyze systems in nuclear engineering. Develops understanding of how numerical approaches are used to represent physical processes such as particle transport, heat transfer, structural behavior, and fluid flow. Students learn the principles behind methods such as Monte Carlo simulation, finite element analysis, and computational fluid modeling, and apply these methods to representative problems in nuclear engineering. The course also emphasizes verification and validation of computational models and the interpretation of simulation results. Learning activities focus on building and executing computational models, working within a command line environment, and communicating technical results.
Prerequisites	NE 3210, ME 3710, ME 3720, MATH 3470
Co-requisites	None
Course category	Required course for BSNE, Tier 2 (Nuclear Engineering Core)

6. **Course Level Learning Objectives:**

CLLO	Course Outcome	ABET Student Outcomes
CO1	Demonstrate basic proficiency in a command line computing environment	1,7
CO2	Explain the principles behind the use of Monte Carlo methods to solve particle transport problems relevant to nuclear engineering practice	1,7
CO3	Develop and execute Monte Carlo models to solve fixed-source type problems relevant to nuclear engineering practice	1,2,6,7
CO4	Develop and execute Monte Carlo models to solve eigenvalue problems relevant to nuclear engineering practice	1,2,6,7
CO5	Explain the principles behind the use of finite element methods to solve heat transfer and stress-strain problems relevant to nuclear engineering practice	1,7
CO6	Develop and execute finite element models to solve heat transfer problems relevant to nuclear engineering practice	1,2,6,7

CO7	Develop and execute finite element models to solve stress-strain problems relevant to nuclear engineering practice	1,2,6,7
CO8	Explain the principles behind the use of computational fluid dynamics methods to solve fluid flow problems relevant to nuclear engineering practice	1,7
CO9	Develop and execute computational fluid dynamics models to solve fluid flow problems relevant to nuclear engineering practice	1,2,6,7
CO10	Develop verification and validation cases for computational models relevant to nuclear engineering practice	2,4,6,7

ABET Student Learning Outcomes:

(Outcomes in **bold** are addressed in this course.)

SO No.	Description
SO1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
SO2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
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SO6	an ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
SO7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

7. Brief list of topics:

- Command line computing environments and computational workflows
- Principles of Monte Carlo methods for particle transport
- Modeling of fixed-source and eigenvalue problems
- Fundamentals of finite element methods for heat transfer and structural analysis
- Computational modeling of fluid flow
- Numerical representation of physical systems and boundary conditions
- Verification and validation of computational models
- Interpretation and communication of computational results

1. **NE 3230 – Radiation Detection and Measurement**

2. **Credit hours:** 3
Contact hours: 3
Credit type: Engineering Topics

3. **Course coordinator:** Manish Sharma

4. **Textbook:** TTU-NE Open Educational Resources

References:

- *Measurement & Detection of Radiation*, N. Tsoulfanidis and S. Landsberger, CRC Press, Taylor & Francis, 4th Edition, 2015.
- *Radiation Detection and Measurement*, G.F. Knoll, John Wiley & Sons, 4th Edition, 2010.

5. **Course information:**

Catalog description	Introduces the principles used to detect and measure radiation in scientific and engineering applications. Develops understanding of radiation sources, radiation interactions, and the operation of common detection systems. Students examine how electronic instrumentation and statistical methods are used to collect and interpret radiation measurements. Laboratory activities emphasize proper measurement techniques, analysis of experimental data, and clear presentation of procedures, results, and conclusions.
Prerequisites	NE 2120, MATH 3470 (may be taken concurrently)
Co-requisites	None
Course category	Required course for BSNE, Tier 2 (Nuclear Engineering Core)

6. **Course Level Learning Objectives:**

CLLO	Course Outcome	ABET Student Outcomes
CO1	Understand ionizing radiation and interaction with radiation sensing media.	1,7
CO2	Determine the detector response and corresponding signals from interaction with photons, alpha and beta particles, and neutrons.	1,7
CO3	Explain the characteristics, limitations and applications of scintillating, semiconductor, and gas-filled detectors.	1,3,7
CO4	Develop the skill to interface the detectors with electronics for measurement acquisition and signal processing.	1,2,5,6,7
CO5	Analyze and display radiation energy spectra as acquired by the different radiation detectors used in the experiments.	1,6
CO6	Calculate error in experimental data and understand the sources of errors and their minimization.	1,4,6
CO7	Prepare laboratory reports, communicate results and shortcomings,	2,3,5,6,7

	and exchange ideas in a team setting.	
CO8	Develop a list of real-world applications of radiation monitoring systems, both in nuclear power plants and in other environments.	1,3,4,5,7

ABET Student Learning Outcomes:

(Outcomes in **bold** are addressed in this course.)

SO No.	Description
SO1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
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SO5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
SO6	an ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
SO7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

7. **Brief list of topics:**

- Counting statistics and error prediction, graphical representation of data
- Interaction of radiation with matter
- Radiation sources and their characteristics
- Radiation detectors and associated electronics
- Radiation spectroscopy and applications
- Scintillation detectors
- Semiconductor detectors
- Gas-filled detectors
- Neutron detectors

1. **NE 3240 – Nuclear Reactor Engineering**

2. **Credit hours:** 3
Contact hours: 3
Credit type: Engineering Topics

3. **Course coordinator:** Shoaib Usman

4. **Textbook:** TTU-NE Open Educational Resources

References:

- *Nuclear Engineering: Theory and Technology of Commercial Nuclear Power*, R.A. Knief, 2nd Edition, Hemisphere Publishing, New York, 1992.
- *Nuclear Safety in Light Water Reactors*, B.R. Sehgal (Editor), Elsevier-AP, 2012.

5. **Course information:**

Catalog description	Introduces how nuclear reactors are designed and operated to produce energy safely and reliably. Develops understanding of major reactor systems and safety systems and how design principles such as defense in depth guide reactor operation and protection. Students examine how heat is generated in reactor fuel and how thermal and fluid systems remove this heat during normal operation and transient conditions. Topics include coolant flow behavior, heat transfer in reactor cores, power distribution, and the role of thermal limits in maintaining safety margins. The course also explores accident scenarios, lessons learned from historical reactor accidents, and the use of probabilistic risk assessment to evaluate reactor safety. Learning activities emphasize analysis of reactor behavior, interpretation of thermal hydraulic performance, and evaluate reactor performance.
Prerequisites	NE 3210, ME 3710, ME 3730
Co-requisites	None
Course category	Required course for BSNE, Tier 2 (Nuclear Engineering Core)

6. **Course Level Learning Objectives:**

CLLO	Course Outcome	ABET Student Outcomes
CO1	Review and understand nuclear plant systems for PWRs, BWRs, CANDUs, PHWRs, SFRs and GCRs.	1,2,7
CO2	Understand the functions various LWR systems (principle of defense-in-depth design), basic design and safety system, PWR vs BWR (reactivity and cooling).	1,2,7
CO3	Understand the thermal and fluid systems of LWR, heat generation (during operation and post shutdown), core power distribution, steady state heat transfer, heat transport during transients, and hot channel	1,2,7

	factors.	
CO4	Discuss the indications of transients in operating reactors and during emergency shutdowns.	1,2,7
CO5	Evaluate fluid systems - single phase flow, pressure loss, two phase flow, in-core flow redistribution, flow instabilities, gas cooled system and compressible flow.	1,2,7
CO6	Understand basic methods of heat transfer calculations - forced convection, boiling heat transfer, heat transfer in rod bundles, core thermal design, safety margin, design limits (CHF, maximum fuel temperature).	1,2,4,7
CO7	Review and understand the principles of probabilistic risk assessment (PRA) and reactor design.	1,7
CO8	Conduct basic analyses of redundancy, impact, and defense-in-depth.	1,2,7

ABET Student Learning Outcomes:

(Outcomes in **bold** are addressed in this course.)

SO No.	Description
SO1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
SO2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
SO3	an ability to communicate effectively with a range of audience.
SO4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
SO5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
SO6	an ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
SO7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

7. Brief list of topics:

- Nuclear plant systems in PWRs, BWRs, SFRs and GCRs
- Safety systems and emergency core cooling systems in PWRs, BWRs, PHWRs & GCRs; nuclear reactor safeguard systems
- Defense-in-depth design; nuclear reactor accident scenarios; design-basis accidents (DBA) and beyond DBA
- Examples of major commercial reactor accidents (TMI-2, Chernobyl, Fukushima)

- Indications of transients in operating reactors and emergency shutdown
- Regulatory issues related to reactor safety
- Elements of probabilistic risk assessment (PRA)
- Study of reactor transients; implementation of thermal hydraulic and severe accident computer codes recommended by the NRC

1. **NE 4211 – Nuclear Engineering Design I**

2. **Credit hours:** 3
Contact hours: 3
Credit type: Engineering Topics

3. **Course coordinator:** TBD

4. **Textbook:** TTU-NE Open Educational Resources.

References:

- *Engineering Design*, G.E. Dieter and L.C. Schmidt, 6th Edition, McGraw-Hill Book Company, 2021.
- *Fundamentals of Engineering Design*, B. Hyman, 2nd Edition, Prentice Hall, 2003.

5. **Course information:**

Catalog description	Principles of engineering design with emphasis on nuclear energy systems. Project proposal writing, preliminary design, supporting analyses and drawings.
Prerequisites	NE 3220, NE 3240
Co-requisites	None
Course category	Required course for BSNE, Tier 2 (Nuclear Engineering Core)

6. **Course Level Learning Objectives:**

CLLO	Learning Outcome	ABET Student Outcomes
CO1	Define, recognize, and distinguish the various activities embodied in a general design methodology and encountered in a real design process.	1,2,6
CO2	Define a project scope and generate concept designs. Communicate with project mentors and nuclear industry experts.	1,2,3,7
CO3	Apply computer-aided design tools to define, analyze and refine systems.	1,2,6,7
CO4	Use of project management tools to meet project timelines and objectives.	5
CO5	Basic finance principles needed for engineering professional.	1,2,4
CO6	The influence of codes and standard practices on the engineering design process.	4
CO7	Professionalism issues such as product liability, patents, teamwork, and engineering ethics related to the practice of nuclear engineering.	4
CO8	Working as a team, on a project, report, or other group assignments.	5
CO9	Preparation and delivery of written and oral presentations.	3

ABET Student Learning Outcomes:

(Outcomes in **bold** are addressed in this course.)

SO No.	Description
SO1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
SO2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
SO3	an ability to communicate effectively with a range of audiences.
SO4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
SO5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
SO6	an ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
SO7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

7. **Brief list of topics:**

- Nuclear structure and nuclear radiation
- Introduction to engineering design
- Problem definition: need and goal statements, objectives, and constraints
- Communication with mentors and industry experts in developing project concepts
- Teamwork
- Concept development and evaluation of concepts
- Design and engineering analysis
- Develop assembly drawings and detailed design, including bill of materials
- Economics of product development and economic analysis

1. **NE 4212 – Nuclear Engineering Design II**

2. **Credit hours:** 3
Contact hours: 3
Credit type: Engineering Topics

3. **Course coordinator:** TBD

4. **Textbook:** TTU-NE Open Educational Resources.

References:

- *Engineering Design*, G.E. Dieter and L.C. Schmidt, 6th Edition, McGraw-Hill Book Company, 2021.
- *Fundamentals of Engineering Design*, B. Hyman, 2nd Edition, Prentice Hall, 2003.

5. **Course information:**

Catalog description	Design, development, and demonstration as applied to a nuclear energy system component, instrumentation, device. The use of software platforms, equipment needed to complete the design and demonstration, and other tools (such as 3-D printing) should be part of the design tasks. Consider non-nuclear components of a power plant or an experimental system. Preparation of a project final report and presentation are required.
Prerequisites	NE 4211
Co-requisites	None
Course category	Required course for BSNE, Tier 2 (Nuclear Engineering Core)

6. **Course Level Learning Objectives:**

CLLO	Learning Outcome	ABET Student Outcomes
CO1	Engage in the various elements of the engineering design process.	2
CO2	Apply design for fabricating and assembly principles.	2,6,7
CO3	Develop a prototype and test the system incorporating measurements, instrumentation, and data processing.	6
CO4	Assess the design project regarding sustainability and globalization.	2
CO5	Assess the design project regarding product liability issues and protection of patents.	2,4
CO6	Apply the essential elements of engineering economics.	4
CO7	Complete a team-based, hands-on, capstone design project.	5
CO8	Engage in technical writing and presentation of design work using written and oral reports.	2,3
CO9	Apply design optimization to iteratively improve initial design concept based on other course instructional outcomes.	2

ABET Student Learning Outcomes:

(Outcomes in **bold** are addressed in this course.)

SO No.	Description
SO1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
SO2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
SO3	an ability to communicate effectively with a range of audiences.
SO4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
SO5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
SO6	an ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
SO7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

7. Brief list of topics:

- Design philosophy, process, procedures.
- Project management that includes definition of tasks and milestone charts.
- Designing a non-nuclear component that interfaces with the reactor and directly affects its performance.
- Understand legal issues of liability and intellectual property.
- Applications of computer software systems to aid in the design process.
- Team-based project execution

1. **NE 4230 – Nuclear Reactor Operations**
2. **Credit hours:** 3
Contact hours: 3
Credit type: Engineering Topics
3. **Course coordinator:** Jeffrey King
4. **Textbook:** TTU-NE Open Educational Resources
5. **Course information:**

Catalog description	Provides students with practical experience in the operation and control of nuclear reactors in a controlled learning environment. Develops understanding of how reactor systems respond during startup, steady operation, shutdown, and transient conditions. Students apply concepts from reactor theory and engineering to monitor reactor behavior, interpret instrumentation, and make operational decisions. The course introduces standard operating procedures, technical specifications, and responses to off-normal conditions, emphasizing safe and disciplined reactor operation. Learning activities include team-based simulator exercises, analysis of reactor behavior, and communication of operational data and conditions.
Prerequisites	NE 3210, NE 3230
Co-requisites	None
Course category	Required course for BSNE, Tier 2 (Nuclear Engineering Core)

6. **Course Level Learning Objectives:**

CLLO	Course Outcome	ABET Student Outcomes
CO1	Demonstrate understanding of reactor startup, steady state operation, and shutdown processes.	1,6
CO2	Perform and interpret approach to critical and 1/M analyses.	1,6
CO3	Monitor and interpret reactor instrumentation during normal and transient conditions.	1,4,5,6
CO4	Analyze reactor transients and explain system responses to changes in reactivity and operating conditions.	1,2,6,7
CO5	Explain the effects of fission product poisoning, including xenon and samarium, on reactor behavior.	1,6
CO6	Apply standard operating procedures and technical specifications in simulated reactor operations	1,2,4,5,6
CO7	Respond to off-normal conditions and alarms using appropriate operational decision making	1,2,4,5,6,7
CO8	Work effectively in a team environment to support reactor	3,5,6,7

	operations, including coordinating actions, sharing information, and communicating decisions under normal and off-normal conditions.	
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ABET Student Learning Outcomes:

(Outcomes in **bold** are addressed in this course.)

SO No.	Description
SO1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
SO2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
SO3	an ability to communicate effectively with a range of audiences.
SO4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
SO5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
SO6	an ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
SO7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

7. **Brief list of topics:**

- Reactor startup, approach to critical, and shutdown procedures
- 1/M method and criticality prediction
- Reactor instrumentation and control systems
- Steady state operation and power changes
- Reactor transients and dynamic response
- Reactivity effects and fission product poisoning (xenon and samarium)
- Standard operating procedures and technical specifications
- Response to alarms and off-normal events
- Operational decision making and communication in reactor settings
- Simulator-based reactor operation exercises

1. **NE 4240 – Nuclear Fuel Cycle**

2. **Credit hours:** 3
Contact hours: 3
Credit type: Engineering Topics

3. **Course coordinator:** Jeffrey King

4. **Textbook:**

- *The Nuclear Fuel Cycle*, N. Tsoulfanidis, American Nuclear Society, La Grange Park, IL, 2013.

5. **Course information:**

Catalog description	Introduces how nuclear fuel is produced, used, and managed across the full nuclear fuel cycle. Develops understanding of the processes that transform natural uranium into reactor fuel and the technical, economic, and policy considerations that shape these processes. Students examine stages of the fuel cycle including resource extraction, enrichment, fuel fabrication, in-core fuel management, and the handling of spent nuclear fuel and radioactive waste. The course also considers trade-offs among different fuel cycle strategies, including once-through and recycling approaches, and their implications for cost, sustainability, safety, and proliferation. Learning activities emphasize systems-level analysis, evaluation of competing approaches, and communication of complex technical and policy issues.
Prerequisites	NE 2120, NE 2130
Co-requisites	None
Course category	Required course for BSNE, Tier 2 (Nuclear Engineering Core)

6. **Course Level Learning Objectives:**

CLLO	Course Outcome	ABET Student Outcomes
CO1	Describe the major stages of the nuclear fuel cycle from resource extraction through waste management.	1,4
CO2	Explain the processes used in uranium mining, conversion, enrichment, and fuel fabrication.	1,4
CO3	Analyze fuel management strategies in reactor cores, including loading patterns and fuel utilization trade-offs.	1,2,6
CO4	Evaluate options for managing spent nuclear fuel, including storage, disposal, and recycling approaches.	1,2,4,6
CO5	Compare different national and international approaches to the nuclear fuel cycle and waste management.	4,7
CO6	Assess the economic factors that influence fuel cycle decisions,	1,2,4,6,7

	including resource use and enrichment requirements.	
CO7	Explain the role of the nuclear fuel cycle in nonproliferation and international safeguards.	2,4
CO8	Evaluate trade-offs among fuel cycle strategies in terms of safety, cost, sustainability, and policy constraints.	1,2,4,7

ABET Student Learning Outcomes:

(Outcomes in **bold** are addressed in this course.)

SO No.	Description
SO1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
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SO3	an ability to communicate effectively with a range of audiences.
SO4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
SO5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
SO6	an ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
SO7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

7. **Brief list of topics:**

- Uranium resources, classification, and global distribution
- Uranium mining, recovery, environmental impacts, and regulatory considerations
- Conversion and enrichment processes and metrics of enrichment performance
- Fuel fabrication, fuel forms, and material trade-offs for different reactor types
- In-core fuel management, fuel utilization, and refueling strategies
- Spent nuclear fuel characteristics and storage approaches
- Radioactive waste classification and high-level waste management strategies
- Geological disposal concepts and repository design considerations
- Fuel cycle strategies including once-through and recycling approaches
- Engineering economics of fuel cycle systems
- Proliferation concerns, safeguards, and international frameworks
- Comparison of national and global fuel cycle policies

1. **NE 4400 – Nuclear Energy Seminar**
2. **Credit hours:** 1
Contact hours: 1
Credit type: Engineering Topics
3. **Course coordinator:** TBD
4. **Textbook:** TTU-NE Open Educational Resources.
5. **Course information:**

Catalog description	Topics related to nuclear energy systems and radiological engineering with emphasis on ongoing activities in the nuclear industry. Students are expected to develop an understanding of engineering ethics, life-long learning, energy independence and other topics. Learning activities include presentations by student teams and guest speakers on various topics.
Prerequisites	None
Co-requisites	None
Course category	Required course for BSNE, Tier 2 (Nuclear Engineering Core)

6. **Course Level Learning Objectives:**

CLLO	Learning Outcome	ABET Student Outcomes
CO1	Identify a topic of interest and develop an in-depth review of the topic; use Internet search and communication with the instructor and team members (2). Prepare a report and present to the class.	1,3,5
CO2	Develop an understanding of nuclear waste and its disposal.	1,3,4,5
CO3	Review the status of advanced reactors and small modular reactors (SMRs), and their future deployment.	1,3,5,7
CO4	Review and develop a case study of the status of licensing and construction of a light water reactor SMR in the United States.	1,3,5,7
CO5	Explain what it means to be a life-long learner and how to achieve it.	1,3,5
CO6	Review the engagement of the French government and Electricite de France (EdF) related to spent fuel reprocessing and deep geological waste disposal, and status of mixed-oxide (MOX) fuel fabrication.	1,3,4,5,7
CO7	Perform research into displaying radiation sources as monitored by radiation detectors in the form of a visual display, similar to an acoustic imager by Fluke Corp.	1,3,5,7
CO8	Collect technical information on fuel enrichment, spent fuel handling, and nuclear nonproliferation (source: IAEA)	1,3,5,7

ABET Student Learning Outcomes:
 (Outcomes in **bold** are addressed in this course.)

SO No.	Description
SO1	an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
SO2	an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
SO3	an ability to communicate effectively with a range of audiences.
SO4	an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
SO5	an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
SO6	an ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions.
SO7	an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

7. **Brief list of topics:**

- Nuclear waste and its disposal
- Status of advanced reactors and small modular reactors (SMRs), and their future deployment
- Licensing and construction of a light water reactors in the United States.
- Life-long learning and how to achieve it
- Engagement of the French government and Electricite de France (EdF) related to spent fuel reprocessing and deep geological waste disposal, and status of mixed-oxide (MOX) fuel fabrication
- Fuel enrichment, spent fuel handling, and nuclear nonproliferation

25b. MECHANICAL AND NUCLEAR ENGINEERING – 1 CURRICULUM CHANGE FOR FLIGHT FOUNDATIONS
NUCLEAR ENGINEERING concentration

I. FLIGHT FOUNDATIONS

Nuclear Engineering Flight Foundations

Flight Foundations Category	Credits
Communication	9
Quantitative Reasoning and Analysis	3
Social and Behavioral Sciences	6
Humanities and Cultural Expression	6
Scientific Reasoning	8
Financial or Digital Literacy	3

II. BSNE CURRICULUM CHANGES

The curriculum for the BSNE degree is being updated to meet the University's new General Education requirements and to revise the BSNE degree to reflect the lessons learned and faculty expertise accumulated since the start of the program in the 2024-2025 Academic Year.

The following tables detail the curriculum changes, with changes between the current and proposed curriculum in *italics*.

Financial Impact: None

Effective Date: Fall 2026

First Year – First Semester

Current		Proposed	
<i>ENGR 1110 Graphics</i>	2	<i>ME 1010 Mechanical Eng. Fundamentals I</i>	3
MATH 1910 Calculus 1	4	MATH 1910 Calculus 1	4
CHEM 1110 Gen Chemistry	4	CHEM 1110 General Chemistry 1	4
ENGL 1010 English Composition I	3	ENGL 1010 English Composition I	3
<i>Humanities/Fine Arts Elective</i>	3	<i>Humanities & Cultural Expression Elective 1</i>	3
	16		17

First Year – Second Semester

Current		Proposed	
ENGL 1020 English Composition II	3	<i>NE 2110 Introduction to Nuclear Energy</i>	3
<i>ENGR 1120 Programming</i>	2	<i>ME 1020 Mechanical Eng. Fundamentals II</i>	3
MATH 1920 Calculus II	4	MATH 1920 Calculus 2	4
PHYS 2110 Physics I	4	PHYS 2110 Physics 1	4
<i>Humanities/Fine Arts Elective</i>	3	ENGL 1020 English Composition II	3
	16		17

Second Year – First Semester

Current		Proposed	
CEE 2110 Statics	3	<i>NE 2120 Radiation Protection and Safety</i>	3
<i>MATH 2120 Diff. Equations</i>	3	CEE 2110 Statics	3
<i>MATH 3470 Prob and Statistics</i>	3	<i>MATH 2110 Calculus III</i>	4
PHYS 2120 Physics II	4	PHYS 2120 Physics 2	4
<i>ENGL 2130, 2230, or 2330 Lit.</i>	3	<i>PC 2500 or COMM 2025 Communications</i>	3
<i>ME 2910 Professionalism and Ethics</i>	1		
	17		17

Second Year – Second Semester

Current		Proposed	
ME 2330 Dynamics	3	<i>NE 2130 Nuclear Regulation and Safety</i>	3
<i>NE 2110 Intro to Nuclear Energy Systems</i>	3	<i>ME 2210 Thermodynamics</i>	3
<i>ME 3010 Materials</i>	3	ME 2330 Dynamics	3
<i>ECE 2050 Principles of Electric Circuits</i>	4	<i>ME 2910 Professionalism and Ethics</i>	1
<i>MATH 2110 Calculus III</i>	4	<i>MATH 2120 Differential Equations</i>	3
		<i>Humanities & Cultural Expression Elective 2</i>	3
	17		16

Third Year – First Semester

Current		Proposed	
<i>ME 3001 ME Analysis</i>	3	<i>NE 3210 Nuclear Reactor Theory</i>	3
<i>PHYS 2420 Modern Physics</i>	3	<i>NE 3230 Radiation Detection and Measurement</i>	3
<i>ME 3210 Thermo I</i>	3	<i>ME 3710 Heat Transfer</i>	3
ME 3720 Fluid Mechanics	3	ME 3720 Fluid Mechanics	3
<i>NE 2120 Intro Radiological Eng and Detection</i>	3	<i>MATH 3470 Intro to Probability and Statistics</i>	3
	15		15

Third Year – Second Semester

Current		Proposed	
<i>ME 3023 Measurements</i>	3	<i>NE 3220 Computational Methods for NE</i>	3
<i>NE 3210 Nuclear Reactor Safety & Analysis</i>	3	<i>NE 3240 Nuclear Reactor Engineering</i>	3
<i>NE 4110 Nuclear Engineering Lab 1</i>	3	<i>Area of Emphasis Course</i>	3
<i>ME 3710 Heat Transfer</i>	3	<i>Area of Emphasis Course</i>	3
<i>PC 2500 or COMM 2025 Communications</i>	3	<i>Financial and Digital Literacy Elective</i>	3
	15		15

Fourth Year – First Semester

Current		Proposed	
<i>NE 4120 Nuclear Engineering Lab II</i>	3	<i>NE 4230 Nuclear Reactor Operations</i>	3
<i>NE 4210 Nuclear Reactor Theory and Analysis</i>	3	<i>NE 4211 Nuclear Engineering Design I</i>	3
<i>NE 4310 Senior Design I</i>	3	<i>NE 4400 Nuclear Energy Seminar</i>	1
<i>NE Core Elective</i>	3	<i>Area of Emphasis Course</i>	3
Social Behavioral Sc. Elective	3	<i>Area of Emphasis Course</i>	3
<i>NE 4410 Senior Seminar</i>	1	Social and Behavioral Science Elective 1	3
	16		16

Fourth Year – Second Semester

Current		Proposed	
<i>NE 4320 Senior Design II</i>	3	<i>NE 4240 Nuclear Fuel Cycle</i>	3
<i>NE 4220 Nuclear Reactor Dynamics and Control</i>	4	<i>NE 4212 Nuclear Engineering Design II</i>	3
<i>NE Elective</i>	3	<i>Area of Emphasis Course</i>	3
<i>NE Elective</i>	3	<i>Area of Emphasis Course</i>	3
Social Behavioral Sc. Elective	3	Social and Behavioral Sciences Elective 2	3
	16		15

The “NE Core Elective” and “NE Elective” are being replaced by courses selected from Areas of Emphasis. There are two Areas of Emphasis being defined now, with more planned. The proposed Areas of Emphasis are detailed below:

III. NUCLEAR ENGINEERING AREAS OF EMPHASIS

Students must take a minimum of 18 hours courses based on a selected Area of Emphasis. Courses taken to satisfy other requirements in the BSNE degree cannot be counted Area of Emphasis courses.

Approved Areas of Emphasis:

General Nuclear Engineering

All courses must be chosen from the list of Generally Approved Courses (see below). At least three courses must be at the 4000-level or above and at least three courses must be listed or co-listed under Nuclear Engineering in the course catalog.

Processing of Nuclear Materials

CHEM 1120, CHEM 3410, CHEM 4310, ME 3010, two courses listed or co-listed under Nuclear Engineering at the 4000-level or above

Generally Approved Area of Emphasis Courses

Any 3- or 4-credit course at the 3000-level or above, listed or co-listed under Nuclear Engineering in the course catalog

Any 3- or 4-credit course at the 3000-level or above, listed or co-listed under Mechanical Engineering in the course catalog

ECE 2050

CHEM 4310

PHYS 3020

Any course approved by the Program Director



Degree Map

CATALOG YEAR: 2026-27

Degree: BSNE

MAJOR: Nuclear Engineering

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

Course	Cr. Hrs.	Course	Cr. Hrs.
FIRST YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 17	
ME 1010 Mechanical Eng. Fundamentals I	3	NE 2110 Introduction to Nuclear Energy	3
MATH 1910 Calculus 1	4	ME 1020 Mechanical Eng. Fundamentals II	3
CHEM 1110 General Chemistry 1	4	MATH 1920 Calculus 2	4
ENGL 1010 English Composition I	3	PHYS 2110 Physics 1	4
Humanities and Cultural Expression Elective 1	3	ENGL 1020 English Composition II	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SOPHOMORE YEAR			
Semester: Fall Total Credit Hours: 17		Semester: Spring Total Credit Hours: 16	
NE 2120 Radiation Protection and Safety	3	NE 2130 Nuclear Regulation and Safety	3
CEE 2110 Statics	3	ME 2210 Thermodynamics	3
MATH 2110 Calculus III	4	ME 2330 Dynamics	3
PHYS 2120 Physics 2	4	ME 2910 Professionalism and Ethics	1
PC 2500 or COMM 2025 Communications	3	MATH 2120 Differential Equations	3
		Humanities and Cultural Expression Elective 2	3
Course	Cr. Hrs.	Course	Cr. Hrs.
JUNIOR YEAR			
Semester: Fall Total Credit Hours: 15		Semester: Spring Total Credit Hours: 15	
NE 3210 Nuclear Reactor Theory	3	NE 3220 Computational Methods for NE	3
NE 3230 Radiation Detection and Measurement	3	NE 3240 Nuclear Reactor Engineering	3
ME 3710 Heat Transfer	3	Area of Emphasis Course	3
ME 3720 Fluid Mechanics	3	Area of Emphasis Course	3
MATH 3470 Intro to Probability and Statistics	3	Financial and Digital Literacy Elective	3
Course	Cr. Hrs.	Course	Cr. Hrs.
SENIOR YEAR			
Semester: Fall Total Credit Hours: 16		Semester: Spring Total Credit Hours: 15	
NE 4230 Nuclear Reactor Operations	3	NE 4240 Nuclear Fuel Cycle	3
NE 4211 Nuclear Engineering Design I	3	NE 4212 Nuclear Engineering Design II	3
NE 4400 Nuclear Energy Seminar	1	Area of Emphasis Course	3
Area of Emphasis Course	3	Area of Emphasis Course	3
Area of Emphasis Course	3	Social and Behavioral Sciences Elective 2	3
Social and Behavioral Sciences Elective 1	3		

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

26a. CURRICULUM AND INSTRUCTION: 1 course change, 1 curriculum change

I. Course Changes:

1. From:

ESOL 4400. Foundations of Language for ESOL Educators Lec. 3. Credit 3.
Prerequisite: Full admission to the Teacher Education Program. Explores students' language acquisition and language development. Focuses on introduction of the language as a broad system in order to help future ESL educators to successfully navigate through language acquisition theories and foundations of linguistics. A minimum grade of B is required to meet requirements for licensure candidates.

To:

ESOL 4400. Foundations of Language for ESOL Educators Lec. 3. Credit 3.
Prerequisite: Full admission to the Teacher Education Program; **ESLP 4100**.
Explores students' language acquisition and language development. Focuses on introduction of the language as a broad system in order to help future ESL educators to successfully navigate through language acquisition theories and foundations of linguistics. A minimum grade of B is required to meet **degree** requirements for licensure candidates.

Add: Pre-req of ESLP 4100.

Update: B or better sentence.

Justification: To strengthen the academic sequence within the program, ESLP 4100 is added as a prerequisite for ESOL 4400. ESLP 4100 serves as a foundational course that builds essential background knowledge necessary for students to successfully engage with more advanced linguistic concepts. By completing this course first, candidates will develop the theoretical and analytical foundation needed to proceed more effectively with the linguistic content presented in ESOL 4400.

Financial Impact: None

Effective Date: Fall 2026

26b. CURRICULUM AND INSTRUCTION: 1 curriculum change

Curriculum/Catalog Changes-Effective Fall 2026

Note-These are additional changes requested to the following PoS (shown in purple). Previous changes have already been approved at UCC.

1. Multidisciplinary Studies, English as a Second Language Concentration, B.S.

A. Sophomore Year First Semester

From:

CUED 3500. Classroom Design & Mngmt for ELED (credit 3)
SPED 2010. Introduction to Special Education (credit 3)

To:

CUED 3500. Classroom Design & Mngmt for ELED (credit 3) OR
CUED 3505. Classroom Design & Mngmt for SEED (credit 3)

SPAN 3510. Spain: The Country/the People (credit 3) OR
SPAN 3500. Latin America: The Countries/the People (credit

3)Junior Year First Semester From:

SPAN 3510. Spain: The Country/the People (credit 3) OR
SPAN 3500. Latin America: The Countries/the People (credit 3)

Total: 17

To:

Total: 14

B. Junior Year Second Semester

From:

SPED 4155. Collaborative Practices (credit 2)

Total: 16

To:

ELED 3155. Foundational Mathematics Methods (credit 3)

Total: 17

C. Senior Year First Semester

From:

Total 13

To:

SPED 4155. Collaborative Practices (credit 2)

Total: 15

Justification: Changes due to edTPA no longer being required starting Fall 2026.

Financial Impact: None

Effective Date: Fall 2026

Multidisciplinary Studies, English as a Second Language Concentration, B.S.

Freshman Year			
Freshman Year First Semester	Cr. Hrs.	Freshman Year Second Semester	Cr. Hrs.
Electives	3	ENGL 1020-English Composition II	3
ENGL 1010-English Composition I	3	HIST 2020-Modern United States History	3
FOED 2050-Education and Technology	3	MATH 1420-Geometry Concepts for Teachers	3
HIST 2010-Early United States History	3	Natural Sciences (Gen Ed)	3-4
MATH 1410-Number Concepts for Teachers	3	Financial & Digital Literacy (Gen Ed)	4
Natural Sciences (Gen Ed)	3-4	Social/Behavioral Sciences Elective (Gen Ed)	3
Scientific Reasoning (Gen Ed)	4	Social & Behavioral Sciences (Gen Ed)	3
Total: 15-16 16		Quantitative Reasoning & Analysis (Gen Ed)	3
		Total: 15-16 16	

Sophomore Year			
Sophomore Year First Semester	Cr. Hrs.	Sophomore Year Second Semester	Cr. Hrs.
Advisor Guided Electives	3	COMM 2025-Fund of Communication OR	3
CUED 3500-Classroom Design & Mngmt for ELED OR	3	PC 2500-Communicating in the Professions	
CUED 3505-Classroom Design & Mngmt for SEED			PSY 2210-Educational Psychology
ENGL 2130-Topics in American Literature OR	3	Humanities/Fine Arts Elective (Gen Ed)	6
ENGL 2235-Topics in British Literature OR		Humanities & Cultural Expression (Gen Ed)	6
ENGL 2330-Topics in World Literature		Select One:	
Humanities & Cultural Expression (Gen Ed)	3	FREN 1020-Elementary French II OR	3
Social/Behavioral Sciences Elective (Gen Ed)	3	GERM 1020-Elementary German II OR	
Social & Behavioral Sciences (Gen Ed)	3	SPAN 1020-Elementary Spanish II	
SPED 2010-Introduction to Special Education	3	Total: 15	
Select One:			
FREN 1010-Elementary French I OR	3		
GERM 1010-Elementary German I OR			
SPAN 1010-Elementary Spanish I			
SPAN 3510-Spain: The Country/the People OR	3		
SPAN 3550-Latin America: The Countries/the People			
Total: 15			

Multidisciplinary Studies, English as a Second Language Concentration, B.S.

Junior Year			
Junior Year First Semester	Cr. Hrs.	Junior Year Second Semester	Cr. Hrs.
ESLP 4100(5100)-ESL Methds and Mtrls PreK-12 OR	3	ECSP 4100-Develop Approp Practices: K-4	3
TEAE 4020		ELED 3155-Foundational Mathematics Mthds	3
FOED 3810-Field Experiences in Education	1-2 (2 required)	FOED 3840-Field Experiences in ESL	1-3 (1 required)
READ 3320-Literacy Methods	6	Elective	2
SPED 3001-Inclusive Tchg Practices/Diverse Learners	3	READ 3335-Literacy for Exceptional Learners	3
Select One:		SPED 3015-Appling Univ Learning Principles	2
FREN 3510-France: The Country & the People	3	SPED 4155-Collaborative Practices	2
GERM 3520-Germany: The Country & the People		ENGL 4511(5511)-Intro to Descriptive Linguistics	3
SPAN 3510-Spain: The Country & the People		LING 4511(5511)-Intro to Descriptive Linguistics C	
SPAN 3550-Latin America: The Countries & the Peopl		TEAE 4500 or	
Total: 17 14		ESOL 4400-Foundations of Language for ESOL Educ	3
		ESLP 4200(5200)-ESL Assesmnt: Rdg & Writing O	
		TEAE 4437	
		Total: 17 16 17	

Senior Year			
Senior Year First Semester	Cr. Hrs.	Senior Year Second Semester	Cr. Hrs.
Advisor Guided Electives	3 5	ELED 4900-Residency	10
CUED 4725-Data, Assessment, & Evaluation	3	ELED 4925-Application of Teaching	2
ELED 4875-Application of Learning	3	Total: 12	
FOED 3010-Integrating Inst Tech in the Class	3		
FOED 3840-Field Experiences in ESL	1-3 (2 required)		
SPED 4155-Collaborative Practices	2		
Total: 12 13 15			

~~Note: Students may take any of the following foreign language sequences based on guidelines from the Foreign Language department: 1010 and 1020; OR 1020 and 2010; OR 2010 and 2020.~~

Note: Natural Science courses may be 3 or 4 credit hours. Three credit hour Natural Science concept courses are recommended. A minimum of eight credit (8) hours is required.

Items in Blue due to Gen Ed Category changes
 Items in RED voted on Nov. 13, 2025
 Items in GREEN voted on Feb. 12, 2026
 Items in PURPLE voted on March 13, 2026

Motion to approve: Julie Baker
Second: Allan Mills
Vote: Motion Carried

27. SCHOOL OF ART, CRAFT AND DESIGN: 1 CURRICULUM CHANGE

BFA, Design Curriculum changes

I. CURRICULUM AND CATALOG CHANGES

A. Bachelor of Fine Arts, Design

Freshman spring

DELETE ART 2220: Typography, Text and Image, *offered only in spring*

ADD ART 1045: Drawing I

Sophomore fall

DELETE ART 1045: Drawing I

ADD Studio Intro of Choice

Sophomore spring:

DELETE ART 3220: Design Studio II

ADD ART 2220: Typography, Text, and Image

Junior fall:

DELETE ART 3230: Design Studio III

ADD ART 3220: Design Studio II

Junior spring:

DELETE Studio Intro of Choice

ADD ART 3230 Design Studio III

Add notes to the following courses:

ART 2220: Typography, Text, and Image, offered only in spring

ART 3240: Illustration/Visual Narrative, offered only in fall

ART 4212: Design Practicum, offered only in fall

Effective: fall 2026

Financial impact: None.

Justification: To ensure students are taking a design course each semester of the program.

Curriculum map attached.

T#: _____
 Current GPA: _____

Bachelor of Fine Arts
 Concentration in Design

Academic Advisor: Erin Higgins and Bill DeJournett
Faculty Advisor: David Gallop, DGallop@tntech.edu
or Matthew Holben, mholben@tntech.edu

student email: _____

FRESHMAN YEAR							
1 st Semester				2 nd Semester			
Course	Hrs.	Gr.	Sub Filed	Course	Hrs.	Gr.	Sub Filed
GEN ED: ENGL 1010 English Composition I <i>(Minimum grade of C must be earned)</i>	3			GEN ED: ENGL 1020 English Composition II <i>(Minimum grade of C must be earned)</i>	3		
ART 1340- Foundation Studio I	3			ART 1320: Creative Studio	3		
ART 1250- Digital Imaging Basics	3			ART 2210-Intro to Design	3		
GEN ED: Quantitative Reasoning and Analysis	3			ART 2220 Typography, Text, and Image	3		
GEN ED: Humanities/Cultural Expression: Must be ART 2000 or ART 1035	3			ART 1045-Drawing I	3		
First Year Foundations	1			GEN ED: Social & Behavior Science	3		
TOTAL	16			TOTAL	15		

*A grade of C or better must be earned for all Art courses to be accepted.

SOPHOMORE YEAR							
1 st Semester				2 nd Semester			
Course	Hrs.	Gr.	Sub Filed	Course	Hrs.	Gr.	Sub Filed
ART 1045-Drawing I	3			ART 1050-Drawing II OR ART-2340-CAD for the Artist	3		
Studio Intro of Choice	3			ART 3220 Design Studio II	3		
ART 3210-Design Studio I	3			ART 2220 Typography <i>*only offered in spring*</i>	3		
ART 1350-Foundation Studio II	3			GEN ED: COMM 2025 or PC 2500	3		
ART 2020-Art History Survey II <i>*only offered in fall*</i>	3			ART 3130-Art Since 1900 <i>*only offered in spring*</i>	3		
GEN ED: Scientific Reasoning	4			GEN ED: Digital and Financial Literacy	3		
TOTAL	16			TOTAL	15		

JUNIOR YEAR

1 st Semester				2 nd Semester			
Course	Hrs.	Gr.	Sub Filed	Course	Hrs.	Gr.	Sub Filed
ART 3230-Design Studio III	3			ART 3230 Design Studio III	3		
ART 3220 Design Studio II	3			Elective	3		
ART 3240-Illustration/Visual Narrative <i>*only offered in fall*</i>	3			Studio Intro of choice	3		
GEN ED: HIST 2010-Early United States History	3			ART Studio	3		
ART Studio	3			GEN ED: HIST 2020-Modern United States History	3		
ART History Elective	3			ART History Elective	3		
TOTAL	15			TOTAL	15		

SENIOR YEAR

1 st Semester				2 nd Semester			
Course	Hrs.	Gr.	Sub Filed	Course	Hrs.	Gr.	Sub Filed
ART 4212-Design Practicum <i>*only offered in fall*</i>	3			ART 4221-Design Internship	3		
ART 4231-Design Portfolio 1	3			ART 4232-Design Portfolio 2	3		
Studio Intro of choice	3			Elective	3		
GEN ED: Humanities & Cultural Expression	3			GEN ED: Humanities & Cultural Expression	3		
GEN ED: Social Behavioral Science	3			Elective: Gen Ed	1		
TOTAL	15			TOTAL	13		

**Student will need to meet with Faculty Advisor each semester to ensure they are on track to begin Practicum and Internship and arrange an agreement of the work to be completed for these credits.

**In specific circumstances students can repeat ART 4221-Design Internship in place of taking Practicum with approval from instructor.

Courses taken for General Education requirements must be from the approved list (located in the catalog). If you are unsure, please check with the current catalog or your advisor to make sure you are taking the correct classes.

*A grade of C or better must be earned for all Art courses to be accepted.

NOTE: The Art History credits (Survey I or II) cannot count for both Art History electives and general education HUFA requirements.

Students must complete either Art 2000 (Survey I) or Art 1035 (Intro to Art) as part of their required 9 credit hours of general education HUFA.

ART 2020 Art History Survey II is only offered in Fall. ART 3130 Art Since 1900 is only offered in spring.

CHANGES MADE:

ART 3240 Illustration/Narrative Design is offered only fall.

ART 2220 Typography, Text & Image is offered only in spring.

ART 4212 Design Practicum is offered only in fall.

Moved ART 1045: Drawing I from fall sophomore year to spring freshman year

Moved ART 3220: Design Studio II from spring sophomore year to fall junior year

Moved ART 3230: Design Studio III from fall junior year to spring junior year

Moved Studio Intro of Choice from spring junior year to fall sophomore year

Moved ART 2220: Typography, Text, and Image from spring freshman year to spring sophomore year

Motion to approve: Julie Baker

Second: Allan Mills

Vote: Motion Carried

28. OTHER SUCH MATTERS

1. Dr. Sharon Huo thanked everyone for their participation in the SACSCOC Accreditation and mentioned that accreditation proceeded without any findings.

2. Dr. Jeremy Wendt was elected as UCC Chair for 2026-2027 by a unanimous vote.

There being no other such matters, Dr. Wendt adjourned the meeting at 4:27 p.m.