Institutional Effectiveness 2022-2023

Program: Business Administration MBA

College and Department: College of Business **Contact:** Dr. Julie Pharr jpharr@tntech.edu

Mission:

The MBA Program is designed to allow students to pursue an on-campus program, a 100% online program or a combination of both. Our program has over a decade of online learning experience. Whether students take class on-ground or online, courses and professors are all the same and there is no difference between earning a degree online, or on campus.

Full-time and part-time programs are available for students to earn their degree at their own pace. Students can finish the 30-hour program in as little as one year. The purpose of the M.B.A degree is to offer a professional program preparing graduate students from diverse backgrounds for rewarding careers in organizations. The core area of business studies is broad in scope for the purpose of developing general managerial competence through extensive use of various pedagogies such as case methods, simulations, and research projects. Electives are used to develop special competencies of interest to the student. In the degree, the College seeks to:

- Provide a high level of confidence that will allow the student to cope with uncertainty, communicate effectively, and to make decisions in an increasingly complex and global business environment.
- Provide an awareness and appreciation of the legal, ethical, social, political, and economic environments of business.
- Provide essential competence in administration, as well as an understanding of the administrative process.
- Develop a high level of skill in problem analysis and decision making.
- Provide sufficient competence for making positive contributions to one of the functional areas of a business firm through changing technology within the business context.

The MBA program is fully accredited by the Association to Advance Collegiate Schools of Business (AACSB International). AACSB Accreditation represents the highest standard of achievement for business schools worldwide.

The MBA program at Tennessee Tech consists of ten, 3-hour courses for a total of 30 hours:

- Eight 3-hour core courses (24 hours)
- Two 3-hour electives (6 hours)

As many as 9 semester hours may be transferred in from other AACSB-accredited schools. Credit will not be allowed for courses taken more than five years prior to application to Tennessee Tech.

Attach Curriculum Map (Educational Programs Only): *See Appendix 1.

SLO 1: ABILITY TO INTEGRATE KNOWLEDGE OF CORE BUSINESS DISCIPLINES

Define Outcome:

Student Learning Outcome 1: Students will demonstrate the ability to integrate knowledge of core business disciplines.

Assessment Methods:

- COMP-XM Exam Students will complete the CAPSIM Business Simulation and the
 accompanying COMP-XM exam. The simulation measures overall integrative knowledge
 through a balanced scorecard approach. To align with SLO 1, the following section on
 the exam is included:
 - COMP-XM Functional Knowledge for Integrative knowledge of business disciplines
- Exit Survey The exit survey provides an indirect measure of graduate student progress, using a 7-point scale (Strongly Disagree Strongly Agree). To align with SLO 1, the survey includes the following prompts:
 - Please rate your strength in the following competencies, upon completing the MBA program:
 - Ability to analyze complex case material
 - Understanding of the management function in business

Criteria for Success (Thresholds for Assessment Methods):

- 1. **COMP-XM Exam** At least 75% of our students will attain a COMP-XM score of at least 70%.
- 2. **Exit Survey** The average score on each item will be above 5.0.

Results and Analysis:

Ability to integrate knowledge of core business disciplines

COMP-XM Functional Knowledge for Integrative knowledge of business disciplines

	2018-19	2019-20	2020-21	2021-22	2022-23
Mean	86.31%	82.92%	80.76%	78.63%	<mark>80.53%</mark>
N	34	97	92	99	<mark>79</mark>
% above 70%	100.00%	93.81%	886.96%	84.85%	<mark>88.61%</mark>

Exit Survey

Please rate your strength in the following competencies, upon completing the MBA program:

Ability to analyze complex case material

	2020-21	2021-22	2022-23
Mean	5.2	6	<mark>5.5</mark>
Count	5	2	8

Understanding of the management function in business

	2020-21	2021-22	2022-23
Mean	5.6	6.5	6
Count	5	2	8

Summary: Students met the benchmarks for the ability to integrate knowledge across core business disciplines. Over 88 percent of students scored 70 or higher on the COMP-XM question set that measures knowledge integration of diverse business functions. In addition, the means on the exit interview questions related to knowledge integration continue to be on the higher end of the 7-point scale at 5.5 or above.

Use of Results to Improve Outcomes:

<u>Use of Results to Improve Outcomes:</u> Students have consistently met the benchmark for integration of knowledge across core business disciplines. In the spirit of continuous quality improvement (CQI) and in order to uncover soft spots in knowledge content areas, survey data will be mined by discipline (accounting, marketing, finance, etc.). We will attempt to uncover topical areas within disciplines where student performance lags below the threshold level of 70%. This information will be matched against topical coverage in core classes and communicated to the Graduate Committee for recommendations related to strengthening selected concepts in the MBA core.

SLO 2: AWARENESS OF ETHICAL IMPLICATIONS OF BUSINESS DECISIONS

Define Outcome:

Student Learning Outcome 2: Students will demonstrate awareness of ethical implications of business decisions.

Assessment Methods:

- **COMP-XM Exam** Students will complete the CAPSIM Business Simulation and the accompanying COMP-XM exam. The simulation measures overall integrative knowledge through a balanced scorecard approach. To align with SLO 2, the following section on the exam is included:
 - o COMP-XM Ethical, Legal, and Social Responsibility
- Exit Survey The exit survey provides an indirect measure of graduate student progress, using a 7-point scale (Strongly Disagree Strongly Agree). To align with SLO 2, the survey includes the following prompts:
 - Please rate your level of agreement to the following statements, upon completing the MBA program
 - I can handle complex ethical issues in business
 - I am sensitive to legal, social, and political environments in which business operates

Criteria for Success (Thresholds for Assessment Methods):

- 1. **COMP-XM Exam** At least 75% of our students will attain a COMP-XM score of at least 70%.
- 2. **Exit Survey** The average score on each item will be above 5.0.

Results and Analysis:

• Awareness of ethical implications of business decisions

COMP-XM Ethical, Legal, and Social Responsibility

	2018-19	2019-20	2020-21	2021-22	2022-23
Mean	83.32%	65.42%	67.04%	66.44%	<mark>63.32%</mark>
N	34	97	92	99	<mark>79</mark>
% above 70%	82.35%	54.64%	48.91%	50.51%	<mark>27.85%</mark>

Exit Survey

Please rate your level of agreement to the following statements, upon completing the MBA program.

I can handle complex ethical issues in business.

	2020-21	2021-22	2022-23
Mean	5.2	5.5	<mark>5.75</mark>
Count	5	2	8

I am sensitive to legal, social, and political environments in which business operates.

	2020-21	2021-22	2022-23
Mean	5.0	5.5	<mark>5.13</mark>
Count	5	2	8

Summary: Although students self-assessed as being able to handle complex ethical issues in business in the exit polling, they failed to meet the COMP-XM benchmark that measures tested ethical awareness for the fourth consecutive academic year. Approximately less than a third of students in the academic terms spanning 2022-23 achieved results at the desired 70 percent or above.

Use of Results to Improve Outcomes:

<u>Use of Results to Improve Outcomes:</u> Student have once again failed to meet the COMP-XM benchmark in tested awareness of ethical dimensions and implications. This is a benchmark the program has failed to meet in four of the last five years. A systemic assessment of ethics content and coverage is planned for Fall 2023. In addition to documenting where ethics and ethical concepts are being covered in the MBA curriculum, the Graduate Committee will review granular test data to ascertain what ethical dimensions of business decision-making are being queried during testing and if these match coverage in the MBA curriculum. The committee will be asked to generate alternate proposals for strengthening ethics coverage with the goal of implementing one or more treatments by Spring semester 2024.

SLO 3: KNOWLEDGE AND SKILLS TO PERFORM IN A PROFESSIONAL ENVIRONMENT

Define Outcome:

Student Learning Outcome 3: Students will possess the necessary knowledge and skills to perform in a professional environment.

SLO 3.1: Students will demonstrate proficiency in written and oral communication skills.

SLO 3.2: Students will be able to make appropriate choices regarding communication strategy, medium, and design.

Assessment Methods:

- COMP-XM Exam Students will complete the CAPSIM Business Simulation and the
 accompanying COMP-XM exam. The simulation measures overall integrative knowledge
 through a balanced scorecard approach. To align with SLO 3, the following section on
 the exam is included:
 - COMP-XM Business Communication Score
- Exit Survey The exit survey provides an indirect measure of graduate student progress, using a 7-point scale (Strongly Disagree – Strongly Agree). To align with SLO 3, the survey includes the following prompt:
 - Please rate your strength in the following competencies, upon completing the MBA program
 - Communication Skills
- Written Communication Assessment Students in ECON 6050 (Fall 2021) and DS 6220 (Spring 2022) were required to write formal reports incorporating data analysis results and recommendations. Student papers were assessed by an independent grader, a faculty member from Business Communications. To align with SLO 3, the assessment includes the following dimensions scored using a 5-point rating scale (1 = Poor; 5 = Excellent):
 - (1) Purpose/Focus; (2) Tone and Word Choice; (3) Organization and Logic; (4)
 Knowledge of Conventions Grammar; and (5) Knowledge of Conventions –
 Format.

Criteria for Success (Thresholds for Assessment Methods):

- 1. **COMP-XM Exam** At least 75% of our students will attain a COMP-XM score of at least 70%.
- 2. **Exit Survey** The average score on each item will be above 5.0.
- 3. Written Communication Assessment A threshold of at least 50 percent and a benchmark of at least 75 percent of students to achieve a score of 4 or 5 on each dimension were set.

Results and Analysis:

• Knowledge and skills to perform in a professional environment

COMP-XM Business Communication score

	2018-19	2019-20	2020-21	2021-22	2022-23
Mean	91.86%	74.87%	68.98% 66.96%	66.97%	<mark>65.86%</mark>
N	34	97	59 92	99	<mark>79</mark>
% above 70%	91.18%	62.89%	66.10% 59.78%	63.64%	<mark>50.63%</mark>

Exit Survey

Please rate your strength in the following competencies, upon completing the MBA program:

Communication Skills

	2020-21	2021-22	2022-23
Mean	5.2	5.0	<mark>5.88</mark>
Count	5	2	8

Due to the transition of the instructor for ECON 6050 and DS 6220, the results of the written communication assessment will be available later in the Fall semester.

Summary: Although students self-assessed as feeling competent in their communication skills above the benchmark level, for the fourth consecutive year, students have failed to meet the benchmark on the COMP-XM Business Communication score. This score measures students' ability to choose appropriate communication strategies, mediums, and design choices.

Use of Results to Improve Outcomes:

<u>Use of Results to Improve Outcomes:</u> Due to the transition of the instructor for ECON 6050 and DS 6220, the results of the written communication assessment were not conducted during the 2022-23AY. Plans have already been made to reinstitute the sample review of papers from these classes in the 2023-24 AY. This assessment centers on communication purpose, tone, organization, grammar, and format. Students continue to test below the desired threshold in the areas of communication strategy, medium, and design. Granular data is available and will

be evaluated with an eye toward zeroing-in on where the concepts in question are introduced, to what extent they are covered, and how they are reinforced. The Graduate Committee will be asked to make a holistic review of whether and how the introduction of the "writing across the curriculum" treatments have addressed these issues.

SLO 4: THINK CRITICALLY IN ADDRESSING BUSINESS PROBLEMS

Define Outcome:

Student Learning Outcome 4: Students will demonstrate the ability to think critically in addressing business problems.

SLO 4.1: Students will demonstrate ability for problem solving and decision making.

SLO 4.2: Students will demonstrate ability to think critically about business issues for making impactful business decisions.

Assessment Methods:

- COMP-XM Exam Students will complete the CAPSIM Business Simulation and the
 accompanying COMP-XM exam. The simulation measures overall integrative knowledge
 through a balanced scorecard approach. To align with SLO 4, the following sections on
 the exam are included:
 - o COMP-XM Analytical and Quantitative Score
 - o COMP-XM Critical-Thinking and Decision-Making Score
- Exit Survey The exit survey provides an indirect measure of graduate student progress, using a 7-point scale (Strongly Disagree Strongly Agree). To align with SLO 4, the survey includes the following prompt:
 - Please rate your strength in the following competencies, upon completing the MBA program
 - Ability to make decisions after proper analysis

Criteria for Success (Thresholds for Assessment Methods):

- 1. **COMP-XM Exam** At least 75% of our students will attain a COMP-XM score of at least 70%.
- 2. **Exit Survey** The average score on each item will be above 5.0.

Results and Analysis:

• Think critically in addressing business problems

COMP-XM Analytical and Quantitative score

	2018-19	2019-20	2020-21	2021-22	2022-23
Mean	85.06%	80.64%	78.61%	77.02%	<mark>75.84%</mark>
N	34	97	92	99	<mark>79</mark>
% above 70%	100.00%	90.72%	79.35%	83.84%	<mark>72.15%</mark>

COMP-XM Critical-Thinking and Decision-Making score

	2018-19	2019-20	2020-21	2021-22	2022-23
Mean	80.60%	78.48%	75.77%	71.87%	<mark>65.52%</mark>
N	34	97	92	99	<mark>79</mark>
% above 70%	97.06%	84.54%	72.83%	65.66%	<mark>48.10%</mark>

Exit Survey

Please rate your strength in the following, upon completing the

Ability to make decisions after proper analysis

	2020-21	2021-22	2022-23
Mean	5.6	6.0	<mark>4.5</mark>
Count	5	2	8

Summary: The critical-thinking learning goal is assessed across two objectives: one relating to analytical and quantitative reasoning and another related to critical thinking and decision-making. While the COMP-XM benchmark is consistently met for the analytical and quantitative objectives, students have performed below the benchmark level for the critical-thinking and decision-making objectives in the last three academic years. In 2023, the percentage of students scoring 70 percent or better on the critical-thinking and decision-making subset of the

COMP-XM exam sunk to a new 5-year low. In 2023 the mean on the exit survey for the ability to make decisions after proper analysis also dropped below 5, with a mean of 4.5.

Use of Results to Improve Outcomes:

<u>Use of Results to Improve Outcomes:</u> Granular test data is available on the critical-thinking and decision-making aspects of the learning goal. The Graduate Committee will be asked to review the data and report on possible causes for the performance drop. In addition, the MBA core will be systemically reviewed for inclusion of decision-making opportunities embedded in critical-thinking assignments.

SLO 5: LEADERSHIP SKILLS AND THE ABILITY TO INFLUENCE OTHERS

Define Outcome:

Student Learning Outcome 5: Students will demonstrate an understanding of leadership skills and the ability to influence others.

- SLO 5.1: Students will be able to identify effective leadership skills required in diverse situations.
- SLO 5.2: Students will be able to demonstrate leadership skills required in diverse situations.
- SLO 5.3: Students will demonstrate teamwork skills that enhance individual and team processes.

Assessment Methods:

- COMP-XM Exam Students will complete the CAPSIM Business Simulation and the
 accompanying COMP-XM exam. The simulation measures overall integrative knowledge
 through a balanced scorecard approach. To align with SLO 5, the following section on
 the exam is included:
 - o COMP-XM Teamwork and Leadership Score
- Change Management Simulation Change Management Simulation published by Harvard Business: Percentage of students who reached "critical mass" in a Change Management simulation by gaining adopters for a new organizational initiative.

Criteria for Success (Thresholds for Assessment Methods):

- 1. **COMP-XM Exam** At least 75% of our students will attain a COMP-XM score of at least 70%.
- 2. **Change Management Simulation** The overall benchmark, across four change management scenarios, is 61%.

Results and Analysis:

SL05: Leadership skills and the ability to influence others

COMP-XM Teamwork and Leadership score

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Mean	86.13%	88.79%	85.67%	81.11%	72.76%	<mark>76.46%</mark>
N	102	34	97	92	99	<mark>79</mark>
% above 70%	96.08%	100.00%	98.97%	94.57%	62.63%	<mark>86.08%</mark>

Change Management Simulation: Percentage of students who reached "critical mass"

Scenario	Benchmark	Spr 22	Sum 22	Fall 22	Spr 23	Sum 23
1. Low-Urgency – Low Power	41%	69%	67%	<mark>79%</mark>	<mark>80%</mark>	<mark>85%</mark>
2. Low Urgency – High Power	57%	59%	54%	<mark>63%</mark>	<mark>61%</mark>	<mark>52%</mark>
3. High Urgency – Lower Power	70%	72%	89%	<mark>78%</mark>	<mark>100%</mark>	<mark>83%</mark>
4. High Urgency – High Power	76%	78%	83%	<mark>87%</mark>	<mark>83%</mark>	<mark>88%</mark>
Average	61%	70%	73%	<mark>77%</mark>	<mark>81%</mark>	<mark>77%</mark>

Change Management Simulation: Average percentage of students who reached "critical mass" by academic year

Academic Year	2021-2022	2022-2023
Average	<mark>71.5%</mark>	<mark>78.3%</mark>

Summary: The percentage of MBA students scoring 70 or better on the teamwork and leadership assessment rose above the benchmark to 86.08% in the 2022-23 academic year and improved significantly from the year prior. This is 11 points above the benchmark of 75 percent. At the same time, the students easily surpassed the benchmarks for all scenarios (1-4) of the

change management simulation. The percentage of students reaching critical mass in each scenario has increased to 78.3% in the 2023 academic year from 71.5% in the 2022 year.

TEAMmate Simulation: Percentage of those who met the satisfactory threshold of 50%.

Fall 2022

4Ps	N=6		
	> 5% improvement	Maintain (±5%)	Combined
Adjustment	33%	67%	<mark>100%</mark>
Execution	17%	83%	<mark>100%</mark>
Monitoring	0%	100%	<mark>100%</mark>
Preparation	33%	67%	<mark>100%</mark>

5Cs	N=6		
	> 5% improvement	Maintain (±5%)	Combined
Cohesion	17%	83%	<mark>100%</mark>
Confidence	17%	67%	<mark>83%</mark>
Conflict	50%	50%	<mark>100%</mark>
Cooperation	50%	50%	<mark>100%</mark>
Coordination	33%	50%	<mark>83%</mark>

Spring 2023

4Ps	N=6		
	> 5% improvement	Maintain (±5%)	Combined
Adjustment	17%	67%	<mark>83%</mark>
Execution	0%	83%	<mark>83%</mark>
Monitoring	0%	83%	<mark>83%</mark>
Preparation	0%	83%	<mark>83%</mark>

5Cs	N=6		
	> 5% improvement	Maintain (±5%)	Combined
Cohesion	0%	83%	<mark>83%</mark>
Confidence	0%	83%	<mark>83%</mark>
Conflict	83%	17%	<mark>100%</mark>

Cooperation	33%	67%	<mark>100%</mark>
Coordination	0%	100%	<mark>100%</mark>

Summary: Students in BMGT 6950 (Fall 2022 and Spring 2023) were required to complete the TEAMmate teamwork learning module, which measures team effectiveness during their business simulation experience. The student results in both Fall 2022 and Spring 2023 exceeded 75% in combined (improvement and maintain) for individual-level team skills (4Ps) and teamlevel team skills (5Cs). The students' results also surpassed the satisfactory threshold of 50% for individual-level team skills (4Ps) and team-level team skills (5Cs) for both semesters.

Use of Results to Improve Outcomes:

<u>Use of Results to Improve Outcomes:</u> MBA students perform consistently above average on the leadership and teamwork assessments. The Graduate Committee will be asked to review the benchmarks and thresholds for these learning goal in the spirit of continuous quality improvement (CQI).

Summative Evaluation:

SLO 1: Ability to integrate knowledge of core business disciplines

Summary: Students met the benchmarks for the ability to integrate knowledge across core business disciplines. Over 88 percent of students scored 70 or higher on the COMP-XM question set that measures knowledge integration of diverse business functions.

SLO 2: Awareness of ethical implications of business decisions

Summary: Although students self-assessed as being able to handle complex ethical issues in business in the exit polling, they failed to meet the COMP-XM benchmark that measures tested ethical awareness for the fourth consecutive academic year. Approximately less than a third of students in the academic terms spanning 2022-23 achieved results at the desired 70 percent or above. We will be looking into ways in our coursework to raise ethical awareness in our Graduate Committee.

SLO 3: Knowledge and skills to perform in a professional environment

Summary: Although students self-assessed as feeling competent in their communication skills above the benchmark level, for the fourth consecutive year, students have failed to meet the benchmark on the COMP-XM Business Communication score. This score measures students' ability to choose appropriate communication strategies, mediums, and design choices. We will be assessing in our Graduate Committee ways to enhance student's knowledge of Business Communication skills in our MBA coursework.

SLO 4: Think critically in addressing business problems

Summary: The critical-thinking learning goal is assessed across two objectives: one relating to analytical and quantitative reasoning and another related to critical thinking and decision-making. While the COMP-XM benchmark is consistently met for the analytical and quantitative objectives, students have performed above the benchmark mean (70%) for the critical-thinking and decision-making objectives, the desired threshold percentage of students doing so has not been met. In addition, in 2022-2023, the mean performance score fell below 70% for the first time and the percentage of students scoring 70 percent sunk to a new 5-year low. In 2023 the mean on the exit survey for the ability to make decisions after proper analysis also dropped below 5, with a mean of 4.5. These results will be discussed in our Graduate Committee to work on ways to ensure students begin to meet the benchmarks for critical thinking and decision-making.

SLO 5: Leadership skills and the ability to influence others

Summary: The percentage of MBA students scoring 70 or better on the teamwork and leadership assessment rose above the benchmark to 86.08% in the 2022-23 academic year and improved significantly from the year prior. This is 11 points above the benchmark of 75 percent. At the same time, the students easily surpassed the benchmarks for all scenarios (1-4) of the change management simulation. The percentage of students reaching critical mass in each scenario has increased to 78.3% in the 2023 academic year from 71.5% in the 2022 year. Students in BMGT 6950 (Fall 2022 and Spring 2023) were required to complete the TEAMmate teamwork learning module, which measures team effectiveness during their business simulation experience. The student results in both Fall 2022 and Spring 2023 exceeded 75% in combined (improvement and maintenance) for individual-level team skills (4Ps) and team-level team skills (5Cs). The students' results also surpassed the satisfactory threshold of 50% for individual-level team skills (4Ps) and team-level team skills (5Cs) for both semesters.

Assessment Plan Changes:

Appendix 1: Business Administration, M.B.A. – Curriculum Map 2023

Catalog: 2022-2023 Graduate Catalog Program: Business Administration, M.B.A. Minimum Credits Required:		

Degree Requirements

As many as nine (9) semester hours may be transferred from other AACSB accredited schools. Credit will not be allowed for courses taken more than five (5) years prior to application to Tennessee Tech. Enrollment in required common courses requires the approval of the MBA Director. All core courses should be complete prior to any 6000-level work.

MBA

Core Required Courses: 24 hours **Advisor Approved Electives:** 6 hours

Total: 30 hours

Core Required Courses

Course Name	Credit	Term Taken	Grade	Gen Ed
ACCT 6010 - Accounting Information for Management Decisions	Cr. 3.			
BMGT 6200 - Organizational Leadership	Cr. 3.			
BMGT 6950 - Business Strategy	Cr. 3.			
DS 6220 - Management of Information Technology	Cr. 3.			
ECON 6000 - Managerial Economics	Cr. 3.			
ECON 6050 - Analytical Decision Making	Cr. 3.			
FIN 6020 - Financial Management	Cr. 3.			
MKT 6100 - Strategic Marketing	Cr. 3.			

Total Hours for Core Courses: 24

Elective Courses

Two (2) courses/six (6) semester hours must be selected based on the student's chosen curriculum, from the following courses:

Course Name	Credit	Term Taken	Grade	Gen Ed
ACCT 4600 (5600) - Forensic Accounting and Fraud Accounting	Cr. 3.			
ACCT 4300 (5300) - Financial Statement Analysis	Cr. 3.			
ACCT 4320 (5320) - Advanced Managerial Accounting	Cr. 3.			
ACCT 4700 (5700) - International Experience in Accounting	Cr. 3.			
ACCT 6220 - Auditing and Attestation	Cr. 3.			
ACCT 6900 - Special Topics	Cr. 3.			
ACCT 4900 (5900) - Special Topics in Accounting	Cr. 3.			
BMGT 4120 (5120) - Compensation Administration	Cr. 3.			
BMGT 4410 (5410) - Conflict Management and Negotiation	Cr. 3.			
BMGT 4520 (5520) - Applied Management Skills	Cr. 3.			
BMGT 4930 (5930) - Business Strategy	Cr. 3.			
BMGT 6400 - Employee Relations	Cr. 3.			
BMGT 6510 - International Business	Cr. 3.			
BMGT 6800 - Strategic Human Resource Staffing	Cr. 3.			
BMGT 6900 - Special Topics	Cr. 3.			

DS 4125 (5125) - Computer Forensics and Investigations	Cr. 3		
DS 4330 (5330) - Management Systems Analysis	Cr. 3.		
DS 4630 (5630) - Advanced Quantitative Analysis	Cr. 3.		
DS 4900 (5900) - Special Topics in Decision Sciences	Cr. 1-3.		
DS 6120 - Operations and Supply Chain Management	Cr. 3.		
DS 6530 - Advanced Data Analytics	Cr. 3.		
DS 6540 - Network Security	Cr. 3.		
DS 6550 - Database Management	Cr. 3.		
DS 6900 - Special Topics	Cr. 3.		
Econ 4200 (5200) - Environmental Economics	Cr. 3		