



# **ADDENDUM D**

## **TO THE NATIONAL UNIVERSITY GENERAL CATALOG 85**

**National University  
Spectrum Business Park  
9388 Lightwave Ave,  
San Diego, CA. 92123.**

The following updates will take effect on August 17, 2023.

## Program Fees

### Class-Based Programs:

#### School of Business and Economics (SoBE) Tuition

Bachelor of Science, Human Resource Management courses, per credit.....	\$348
Bachelor of Science, Project Management courses, per credit.....	\$348
Bachelor of Science, Marketing courses, per credit.....	\$348
Bachelor of Science, Logistics & Supply Chain Management courses, per credit.....	\$348

#### School of Technology and Engineering (SoTE) Tuition

Bachelor of Science, Data Science courses, per credit.....	\$348
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### 1:1 Course Program Fees:

#### College of Law and Public Service (CLOPS) Tuition

Degree Program	Total # of Credit-Hours Required	Total # of Courses Required	Cost Per Credit-Hour	Course Material Fee Per Course
Master of Law and Business (MLB)	30	10	\$803	\$125

\*Total Estimated Cost of Program may vary depending on how many credits are transferred into the program and other factors that may apply such as leveling courses, repeated courses, etc. Rates reflect today's credit requirements based on current course tuition rates and include the one-time learning management fee of \$450 and a course materials fee (CMF) that will be charged per course to cover all of the materials (text and other) for the course.

#### School of Business and Economics (SoBE) Tuition

Degree Program	Total # of Credit-Hours Required	Total # of Courses Required	Cost Per Credit-Hour	Course Material Fee Per Course
Master of Science in Entrepreneurship (MSE)	30	10	\$875	\$95

\*Total Estimated Cost of Program may vary depending on how many credits are transferred into the program and other factors that may apply such as leveling courses, repeated courses, etc. Rates reflect today's credit requirements based on current course tuition rates and include the one-time learning management fee of \$450 and a course materials fee (CMF) that will be charged per course to cover all of the materials (text and other) for the course.

## Course Termination

## **Program Terminations**

# Degree Information

## Undergraduate Degrees

### Class-Based

## Bachelor of Science in Project Management

**Status:** *Historical-Review all addendums*

**Academic Program Director:** Robin Butler; rbutler2@nu.edu

The Bachelor of Science in Project Management provides students with a business-related degree with an emphasis on managing projects in a multicultural and global setting. To achieve maximum effectiveness in contemporary business operations, organizations need highly effective project managers to set clear goals, define scope, and successfully manage costs, timelines, and outcomes.

**Program Learning Outcomes:**

Upon successful completion of this program, students will be able to:

- Initiate projects with clearly identified scope, requirements, and stakeholders.
- Evaluate the probability and consequences of risks and estimate their implications for project objectives.
- Develop a project procurement plan based on requirements and schedule.
- Plan complex projects using appropriate planning tools.
- Manage project cost and budget baselines.
- Demonstrate leadership styles to effectively manage stakeholders and communication for complex projects.
- Apply the principles of ethical decision-making in the everyday conduct of business.
- Work effectively with diverse populations.
- Communicate effectively both orally and written.

**Degree Requirements:**

To receive a Bachelor of Science in Project Management, students must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at National University, 76.5 of which must be completed at the upper-division level, and a minimum of 69 units of the University General Education requirements. In the absence of transfer credit, additional general electives may be necessary to satisfy the total units for the degree. The following courses are specific degree requirements. Refer to the section of undergraduate admission procedures for specific information regarding admission and evaluation. All students receiving an undergraduate degree in the State of Nevada are required by State Law to complete a course in the Nevada Constitution.

**Business Foundation Requirements (6 courses; 27 quarter units) Units: 27.00**

LED 400	Introduction to Leadership	4.50
BIM 400	Info Mgmt in Organizations	4.50
HRM 409B	Intro to Human Resource Mgmt	4.50
HRM 450	Workplace Ethics	4.50
HRM 444	Diversity, Equity & Inclusion	4.50
MGT 422	Team Bldg, Interpers Dynamics	4.50

**Project Management Courses (10 courses; 45 quarter units) Units: 45.00**

PMB 400	Project Management Essentials	4.50
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PMB 410	Project Planning and Control <b>Prerequisite:</b> PMB 400	4.50
PMB 420	Program Management <b>Prerequisite:</b> PMB 400	4.50
PMB 430	Project Accting Fundamentals <b>Prerequisite:</b> PMB 400	4.50
PMB 440	Contract Management <b>Prerequisite:</b> PMB 400	4.50
PMB 450	Agile Project Management <b>Prerequisite:</b> PMB 440	4.50
PMB 460	Project Risk Management <i>Historical-Review all addendums</i> <b>Prerequisite:</b> PMB 450	4.50
PMB 470	Project Sustainability <i>Historical-Review all addendums</i> <b>Prerequisite:</b> PMB 460	4.50
PMB 480	Emerging Trends in Proj. Mgmt. <i>Historical-Review all addendums</i> <b>Prerequisite:</b> PMB 470	4.50
PMB 490	Project Management Capstone <i>Historical-Review all addendums</i> <b>Prerequisite:</b> PMB 400; PMB 410; PMB 420; PMB 430; PMB 440; PMB 450; PMB 460; PMB 470; PMB 480	4.50

#### Upper-Division Elective (1 course; 4.5 quarter units)

**Units:** 4.50

Students can choose an Upper-Division elective from any appropriate courses to satisfy the total upper-division units for the degree in the following prefix areas: ACC, ADR, BKM, ECO, FIN, HRM, LAW, LED, MGT, MKT, MNS and ODV.

## Bachelor of Science in Human Resource Management

**Academic Program Director:** Bernadette Baum; bbaum@nu.edu

The Bachelor of Science in Human Resource Management (BSHRM) program is designed to provide fundamental knowledge and skills for students seeking entry-level generalist and supervisory positions in the field of human resource management. The program provides a broad knowledge of the foundations of managing human resources, including recruitment, selection, retention, compensation and benefits, training and talent development, and legal compliance with a view toward diversity, equity, and inclusion in the workplace. The BSHRM program prepares students for expanded opportunities in diverse industries. Students will obtain valuable knowledge and skills in human resource management that will enable them to contribute to the ongoing process of attracting and retaining individuals from a diverse candidate pool who will assist in furthering an organization's interest in achieving its mission.

#### Program Learning Outcomes:

Upon successful completion of this program, students will be able to:

- Identify and discuss key components to conducting a job analysis to meet staffing needs as part of the human resource planning process.
- Describe components of an onboarding and training program to assist new employees in effectively integrating into the organization.
- Explain elements of a compensation and benefits plan linked to performance and motivation of employees.
- Define key elements of a recruitment and selection plan for attracting and retaining qualified candidates from a diverse candidate pool.
- Recognize situations that pose legal risks of liability to the employer and discuss proactive measures concerning legal compliance of workplace laws.
- Define and discuss workplace diversity, equity, and inclusion, and its impact on an organization.
- Identify labor relations issues in an environment of unionized employees and explain the organizational impact of union activities.
- Discuss organizational theory and design as it relates to strategic HR planning, development, and talent management.
- Describe elements of proper safety, health, and security measures in the workplace.

- Apply ethical principles to complex issues that arise in the workplace.

### Degree Requirements:

To receive a Bachelor of Science in Human Resource Management, students must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at National University, 76.5 of which must be completed at the upper-division level, and a minimum of 69 units of the University General Education requirements. In the absence of transfer credit, additional general electives may be necessary to satisfy the total units for the degree. The following courses are specific degree requirements. Refer to the section on undergraduate admission procedures for specific information regarding admission and evaluation.

Program Requirements (14 courses; 63 quarter units)		Units: 63.00
HRM 409B	Intro to Human Resource Mgmt	4.50
HRM 439	Legal Compliance in HR Mgmt	4.50
HRM 444	Diversity, Equity & Inclusion	4.50
HRM 432	Talent Acquisition: Onboarding	4.50
HRM 440	Training & Talent Development	4.50
HRM 433	Pay & Benefits Administration	4.50
HRM 442	Labor Relations	4.50
ODV 400	Organizational Strat & Design	4.50
ODV 420	Organizational Behavior	4.50
ODV 410	Workforce & Talent Management	4.50
HRM 446	Workplace Health & Safety	4.50
HRM 448	Managerial Leadership	4.50
HRM 450	Workplace Ethics	4.50
HRM 460	Capstone Project	4.50
<b>Prerequisite:</b> HRM 409B; HRM 439; HRM 444; HRM 432; HRM 440; HRM 433; HRM 442; ODV 400; ODV 420; ODV 410; HRM 446; HRM 448; HRM 450		

### Upper-Division Electives (2 courses; 9 quarter units) Units: 9.00

Students select from upper-division courses in the School of Business and Economics.

## Bachelor of Science in Logistics and Supply Chain Management

**Academic Program Director:** Justin Goldston; jgoldston@nu.edu

The Bachelor of Science in Logistics and Supply Chain Management prepares students for analytical and managerial roles in any industry as firms purchase, manufacture, stock, and ship goods around town and around the world. Building on a core fundamental of business, students will learn the interplay between inventory & customer service; manufacturing & planning; sourcing & spending. This means you deliver the right product, at the right time, in the right quality, in the right condition, with all the right documentation.

In a global supply chain, there is no right solution; there is only an optimal solution where give and take between different functions are inherent. Key variables such as inventory and cost will almost always work counter to one another. The program will focus on building leaders in the world of the supply chain with in-depth expertise from the strategic to the tactical. As e-commerce becomes the dominant way business is conducted globally, the physics of supply chains is now different. The program will equip students to understand these paradigm shifts while maintaining the strength of core fundamentals. Leading-edge technologies that give disruptive benefit will be explored, as well as operational risk management and strategic resilience planning that are critical to managing an efficient supply chain.

### Program Learning Outcomes:

Upon successful completion of this program, students will be able to:

- Cultivate a deep and fundamental understanding of supply chain concepts within the framework of current global business conditions.
- Employ tools within data analytics, information flows, and statistical methods to make informed and smart business decisions.
- Develop strong technical, functional, and leadership skills to drive benefits across the supply chain spectrum.
- Design principles of digital supply chains that optimize key financial metrics while maintaining social, ethical, and environmental responsibilities.

### Degree Requirements:

To receive a Bachelor of Science in Logistics and Supply Chain Management, students must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at National University, 76.5 of which must be completed at the upper-division level, and a minimum of 69 units of the university general education requirements. In the absence of transfer credit, additional general electives may be necessary to satisfy the total units for the degree. The following courses are specific degree requirements. Refer to the section on undergraduate admission procedures for specific information regarding admission and evaluation.

<b>Preparation for the Major (6 courses; 27 quarter units)</b>		<b>Units: 27.00</b>
MNS 205	Intro to Quantitative Methods*	4.50
ECO 203	Principles of Microeconomics*	4.50
ECO 204	Principles of Macroeconomics*	4.50
ACC 201	Financial Accounting Funds.	4.50
ACC 202	Managerial Accounting Funds. <i><b>Prerequisite:</b> ACC 201</i>	4.50
LAW 204	Legal Aspects of Business I	4.50

\* General Education Requirement

\*General Education Requirement

<b>Business Core Requirements (9 courses, 40.5 quarter units)</b>		<b>Units: 40.50</b>
MGT 309	Prin. of Mgmt & Organizations	4.50
MKT 302A	Marketing Fundamentals	4.50
FIN 310	Business Finance <i><b>Prerequisite:</b> ACC 201</i>	4.50
MGT 400	Ethics in Law, Business & Mgmt	4.50
LED 400	Introduction to Leadership	4.50
MNS 407	Management Science <i><b>Prerequisite:</b> MNS 205 and MTH 210</i>	4.50
MGT 451	Production & Ops Management <i><b>Prerequisite:</b> MNS 407</i>	4.50
PMB 400	Project Management Essentials	4.50
IBU 430	Survey of Global Business <i><b>Prerequisite:</b> ECO 203 and ECO 204</i>	4.50

### Logistics and Supply Chain Management Requirements (10 courses; 45.0 units) **Units: 45.00**

Prerequisite for all Logistics and Supply Chain Management Requirements: Students must have completed MNS 407 and MGT 451 or their equivalent with a minimum grade of "C" within two years of taking any of the following courses:



SCM 400	Supply Chain Management <b>Prerequisite:</b> MGT 451	4.50
LOG 410	Procurement and Inventory Mgt	4.50
LOG 420	Omni-channel Distribution	4.50
LOG 430	Global Logistics <b>Prerequisite:</b> LOG 420	4.50
SCM 435	eCommerce Cust Srv & Returns	4.50
SCM 440	Cost and Risk in SCM	4.50
SCM 450	Network Modeling <b>Prerequisite:</b> MNS 407; SCM 440	4.50
SCM 460	Robots, Drones, & Blockchains	4.50
SCM 465	Data Visualization <b>Prerequisite:</b> MNS 407	4.50
SCM 480	Capstone-SCM Strategy & Policy <b>Prerequisite:</b> Prerequisite: All other Requirements for the Major courses (e.g. Business Core Requirements and LSCM Requirements) with a GPA of 2.00 or higher.	4.50

#### Upper-Division Electives for the Major (2 courses; 9.0 quarter units)

**Units:** 9.00

Students must choose two courses from the courses listed below:

FIN 446	International Financial Mgmt <b>Prerequisite:</b> FIN 310	4.50
MGT 422	Team Bldg, Interpers Dynamics	4.50
MGT 481	Foundations of Entrepreneurshi	4.50
MGT 482	Small Business Management	4.50
MGT 483	E-Business	4.50
PMB 410	Project Planning and Control <b>Prerequisite:</b> PMB 400	4.50
PMB 420	Program Management <b>Prerequisite:</b> PMB 400	4.50
PMB 440	Contract Management <b>Prerequisite:</b> PMB 400	4.50
LED 420	Adaptive Leadership in Change	4.50
LED 430	Conflict/Negotiation for Ldrs	4.50

\* Non-Business Minors are prohibited from satisfying this requirement.

#### (Optional) Preparation for Certification (1 course; 3.0 quarter units)

**Units:** 3.00

Optional: Students planning to continue toward evaluation for the Council of Supply Chain Management Professional's SCPro™ Level One Certification, are highly encouraged to complete the following course:

SCM 481	Professional Cert Exam Prep <b>Prerequisite:</b> SCM 480	3.00
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## Bachelor of Science in Marketing

**Status:** *Historical-Review all addendums*

**Academic Program Director:** Paul Markham; pmarkham@nu.edu

This program prepares students to effectively manage marketing challenges in an increasingly global and fundamentally complex commercial landscape. The contemporary marketer needs to have a thinking harder / change leadership mindset to survive and thrive in this constantly changing landscape. In a landscape where technologies such as but not limited to AI and blockchain, are rewriting marketing fundamentals, the marketer needs to think ahead and simulate multi-variant scenarios.

### Program Learning Outcomes:

Upon successful completion of this program, students will be able to:

- Apply a strategic-change leadership mindset to decision-making in an ever-changing global marketplace.
- Demonstrate a deep understanding of traditional and emerging marketing concepts within the ever-changing framework of current global business conditions.
- Employ decision making techniques (data analytics, information flows, and statistical methods to make informed and smart marketing decisions.
- Exercise strong technical skills to drive marketing benefits across the organization.
- Explore global marketing plan principles to optimize key marketing and financial metrics that maintain social, ethical, and environmental responsibilities.

### Degree Requirements:

To receive a Bachelor of Science in Marketing, students must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at the National University, 76.5 of which must be completed at the upper-division level, and a minimum of 69 units of the University General Education requirements. In the absence of transfer credit, additional general electives may be necessary to satisfy the total units for the degree. The following courses are specific degree requirements. Refer to the section on undergraduate admission procedures for specific information regarding admission and evaluation.

Preparation for the Major (8 courses; 36 quarter units)		Units: 36.00
MKT 302A	Marketing Fundamentals	4.50
MNS 205	Intro to Quantitative Methods* <i>Historical-Review all addendums</i>	4.50
MTH 210	Probability and Statistics*	4.50
	<b>Prerequisite:</b> MTH 12A and MTH 12B, or Accuplacer test placement evaluation	
ECO 203	Principles of Microeconomics*	4.50
ECO 204	Principles of Macroeconomics*	4.50
ACC 201	Financial Accounting Funds.	4.50
ACC 202	Managerial Accounting Funds.	4.50
	<b>Prerequisite:</b> ACC 201	
LAW 204	Legal Aspects of Business I	4.50

\* May be used to meet General Education requirements. MNS 205 can be waived if students have transfer credits for college algebra and/or calculus (the equivalent of MTH 216A and MTH 216B, or MTH 220). MNS 205 must be taken if students do not have transfer credits for MNS 205 or MTH 216A and MTH 216B or MTH 220.

Marketing Requirements (16 courses; 72 quarter units)		Units: 72.00
MKT 410	Strategic Marketing Leadership	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 430	Intro to Global Marketing	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 434	Marketing Research & Analytics	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 450	Business Model Innovation	4.50

	<b>Prerequisite:</b> MKT 302A	
MKT 452	Marketing Law and Ethics	4.50
	<b>Recommended Preparation:</b> MKT 302A	
MKT 454	Marketing Economics	4.50
	<b>Recommended Preparation:</b> MNS 205; ECO 203; <b>Prerequisite:</b> MKT 302A	
MKT 456	Sales Management	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 458	New Product Management	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 460	Consumer Behavior	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 462	Brand Management	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 464	Advertising Management	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 466	Mktg Sci & Comp Intelligence	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 468	Pricing Strategy	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 470	Services Marketing	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 472	Innov Value-Based Bus Models	4.50
	<b>Prerequisite:</b> MKT 302A	
MKT 494	Digital Marketing Capstone <i>Historical-Review all addendums</i>	4.50
	<b>Prerequisite:</b> MKT 302A	

## Bachelor of Science in Data Science

**Status:** *Historical-Review all addendums*

**Academic Program Director:** Jodi Reeves; jreeves@nu.edu

This program explores the Data Science Life Cycle of Data Acquisition, preparation, management, mining, modeling, and visualization. Major courses apply analytical methods to solve real-world problems and prepare for entry-level careers in Data Science. Concentrations are available in Machine Learning and Artificial Intelligence, Cybersecurity, or Bioinformatics. The program culminates in a three-month capstone where publicly available data is used in a project to demonstrate mastery of the Data Science Life Cycle in the chosen concentration area.

### Program Learning Outcomes:

Upon successful completion of this program, students will be able to:

- Apply theory, methods, and tools throughout the Data Science Life Cycle to satisfy stakeholders' needs.
- Analyze a complex Data Science problem by applying principles of computing and mathematics to identify solutions.
- Synthesize a computing-based solution to meet a given set of requirements in the context of Data Science.
- Communicate effectively in a variety of professional contexts.
- Recognize legal and ethical professional responsibilities to make informed judgments in Data Science practice.
- Function effectively as a member of a Data Science Team.

### Degree Requirements:

To receive a Bachelor of Science Degree with a Major in Data Science, students must complete at least 180 quarter units as articulated below, 45 of which must be completed in residence at National University, 76.5 of which must be completed at the upper-division level and a minimum 69 units of the University General Education requirements. The following courses are specific degree requirements. In the absence of transfer credit, students may need to take additional general electives to satisfy the total units for the degree.

<b>Preparation for Major (5-6 courses; 22.5-24 quarter units)</b>		<b>Units: 22.50-24.00</b>
ANA 200	Intro to Data Science	4.50
ANA 230	Intro to Data Visualization <b>Prerequisite:</b> ANA 200	4.50
MTH 210	Probability and Statistics <b>Prerequisite:</b> MTH 12A and MTH 12B, or Accuplacer test placement evaluation	4.50
		4.50-6.00
MTH 215	College Algebra & Trigonometry <b>Prerequisite:</b> MTH 12A and MTH 12B, or Accuplacer test placement evaluation	4.50
OR		6.00
MTH 216A	College Algebra I <i>Discontinued</i> <b>Prerequisite:</b> MTH 12A and MTH 12B, or Accuplacer test placement evaluation	3.00
AND		
MTH 216B	College Algebra II <i>Discontinued</i> <b>Prerequisite:</b> MTH 216A	3.00
CSC 350	Computer Ethics	4.50
<b>Major in Data Science (11 courses; 49.5 quarter units)</b>		<b>Units: 49.50</b>
ANA 310	Data Acquisition <b>Prerequisite:</b> ANA 200 and ANA 230	4.50
ANA 320	Data Management and Governance <b>Prerequisite:</b> ANA 310	4.50
MTH 330	Applied Statistical Methods <b>Prerequisite:</b> MTH 210	4.50
ANA 330	Data Preparation <b>Prerequisite:</b> ANA 320 and MTH 330	4.50
MTH 220	Calculus I <b>Prerequisite:</b> MTH 215, or Accuplacer test placement	4.50
ANA 340	Data Mining <b>Prerequisite:</b> ANA 330	4.50
ANA 350	Data Modeling <b>Prerequisite:</b> ANA 340	4.50
MTH 325	Discrete Mathematics <i>Historical-Review all addendums</i> <b>Prerequisite:</b> MTH 215, or MTH 216A and MTH 216B	4.50
MTH 435	Linear Algebra <i>Historical-Review all addendums</i> <b>Prerequisite:</b> MTH 220 and MTH 325	4.50
ANA 420	Advanced Data Management <b>Prerequisite:</b> ANA 350	4.50
ANA 430	Advanced Data Visualization <b>Prerequisite:</b> ANA 420	4.50
<b>Capstone (3 courses; 13.5 quarter units)</b>		<b>Units: 13.50</b>

ANA 499A	Data Science Project I <b>Prerequisite:</b> Prior completion of all Major Prep, Major, and Concentration classes in BS Data Science program are to be completed before registering for this course.; ANA 485, or CYB 456, or BIO 471	4.50
ANA 499B	Data Science Project II <b>Prerequisite:</b> ANA 499A	4.50
ANA 499C	Data Science Project III <b>Prerequisite:</b> ANA 499B	4.50

## Concentration in AI and Machine Learning

**Academic Program Director:** Jodi Reeves; jreeves@nu.edu

The Concentration in AI and Machine Learning provides for greater depth in Computer Science topics, including Algorithms and Database Design in Artificial Intelligence and Machine Learning.

### Program Learning Outcomes:

Upon successful completion of this program, students will be able to:

- Apply the principles of Computer Science to Data Science problems.
- Demonstrate knowledge of the fundamental concepts of data structures, algorithms, and database design.
- Analyze a complex set of data by applying principles of Neural Networks and Machine Learning Methods.
- Effectively communicate technical information in written and oral form to audiences within and outside the discipline of Artificial Intelligence and Machine Learning.

### Degree Requirements:

Requirements for the Concentration (7 courses; 31.5 quarter units)

Requirements for the Concentration (7 courses; 31.5 quarter units)		Units: 31.50
CSC 300	Object Oriented Design* <b>Prerequisite:</b> CSC 252, or CSC 272	4.50
CSC 335	Data Structures and Algorithms** <b>Prerequisite:</b> CSC 300; CSC 331	4.50
CSC 338	Algorithm Design <b>Prerequisite:</b> CSC 335	4.50
CSC 422	Database Design <b>Prerequisite:</b> CSC 300	4.50
CSC 450	Artificial Intelligence <b>Prerequisite:</b> CSC 335	4.50
ANA 480	Machine Learning Methods <b>Prerequisite:</b> ANA 430	4.50
ANA 485	Neural Networks <b>Prerequisite:</b> ANA 480	4.50

\*CSC 252 or CSC 272 prerequisites are being waived for students in this concentration. \*\*CSC 331 prerequisite is being waived for students in this concentration.

## Concentration in Bioinformatics

**Academic Program Director:** Rachel Simmons; rsimmons@nu.edu

The Concentration in Bioinformatics will provide students with the Biological Literacy necessary to evaluate techniques essential to Bioinformatics, including practical knowledge of databases, relevant libraries, verifying and evaluating analyses, developing a research project, and communicating results to Biologists.

### Program Learning Outcomes:

Upon successful completion of this program, students will be able to:

- Describe key biological concepts such as cellular, molecular, organismal, and evolutionary processes, and how they frame Bioinformatics questions.
- Implement and evaluate programs and libraries in relation to the contexts of Molecular and Cellular Biology and Genomics Research.
- Analyze and evaluate Bioinformatics Data to discover patterns, critically evaluate conclusions and generate predictions for subsequent experiments.
- Effectively communicate scientific information in written and oral form to audiences within and outside the discipline of Bioinformatics.

### Degree Requirements:

Requirements for the Concentration (8 courses; 30 quarter units)

Requirements for Concentration (8 courses: 30 quarter units)		Units: 30.00
BIO 100	Survey of Bioscience	4.50
CHE 101	Introductory Chemistry	4.50
	<b>Recommended Preparation:</b> MTH 204	
BIO 305	Genetics	4.50
	<b>Prerequisite:</b> BIO 100 and CHE 101, or BIO 162 and CHE 142	
BIO 306	Survey of Molecular Biology	4.50
	<b>Prerequisite:</b> BIO 305	
BIO 470	Bioinformatics*	4.50
	<b>Corequisite:</b> BIO 470A; <b>Prerequisite:</b> BIO 161 with a minimum grade of C-. Student must have passed the class with a C- or better; BIO 162 with a minimum grade of C-. Student must have passed the class with a C- or better; BIO 163 with a minimum grade of C-. Student must have passed the class with a C- or better	
BIO 470A	Bioinformatics Lab	1.50
	<b>Corequisite:</b> BIO 470	
BIO 471	Adv. Bioinformatics	4.50
	<b>Corequisite:</b> BIO 471A; <b>Prerequisite:</b> BIO 470	
BIO 471A	Adv. Bioinformatics Lab	1.50
	<b>Corequisite:</b> BIO 471; <b>Prerequisite:</b> BIO 470A	

\* BIO 100 will fulfill the prerequisite for students only in this concentration.

## Concentration in Cybersecurity Analytics

**Academic Program Director:** Christopher Simpson; csimpson@nu.edu

The Concentration in Cybersecurity Analytics provides for greater depth in Computer Science topics including: Networking, Cybersecurity, Cloud Computing, Incidence Response, and Network Analytics.

### Program Learning Outcomes:

Upon successful completion of this program, students will be able to:

- Apply the principles of Data Science to solve a Cybersecurity problem.
- Analyze a complex set of Cybersecurity Data by applying principles of Cybersecurity, incident response techniques, and other relevant disciplines to determine the cause of a cyber attack.
- Communicate the results of a cybersecurity investigation.
- Demonstrate knowledge of the fundamental concepts of operating systems, networks, and cloud computing.

### Degree Requirements:

Requirements for the Concentration (7 courses; 31.5 quarter units)

Requirements for the Concentration (7 courses; 31.5 quarter units)		Units: 31.50
CYB 202	Introduction to Networking	4.50
CYB 206	Introduction to Cybersecurity <b>Prerequisite:</b> CYB 204	4.50
CYB 215	Fund of Virt and Cloud Comp* <b>Prerequisite:</b> CYB 213	4.50
CYB 451	Incident Handling/Response** <b>Prerequisite:</b> CYB 340	4.50
CYB 453	Network Defense <b>Prerequisite:</b> CYB 452	4.50
CYB 455	Network Data Analysis <b>Prerequisite:</b> CYB 453	4.50
CYB 456	Data Analytics for Cybersec <b>Prerequisite:</b> CYB 455	4.50

\* CYB 204 prerequisite is being waived for students in this concentration. \*\* CYB 340 prerequisite is being waived for students in this concentration.

### Graduate Degrees

#### 1:1

Master of Science in Entrepreneurship

Master of Law and Business - Cross-Cultural Perspectives Specialization

Master of Law and Business - Employment Law and Labor Relations Specialization

Master of Law and Business - Healthcare Law, Compliance, and Ethics Specialization

Master of Law and Business - Privacy and Compliance Specialization

# Courses

## UNDERGRADUATE

### Class-Based

#### **ANA 200 Intro to Data Science (4.50)**

Duration: 4

Conceptual foundation for the field of Data Science, with emphasis on ethically using Data Science skills and tools in a variety of fields.

#### **ANA 230 Intro to Data Visualization (4.50)**

**Prerequisite:** ANA 200

Duration: 4

Develop skills to acquire and visualize data to clearly communicate Data Science insights to a variety of project stakeholders.

#### **ANA 310 Data Acquisition (4.50)**

**Prerequisite:** ANA 200 and ANA 230

Duration: 4

Students will apply Data Acquisition techniques for different kinds of data, including structured and unstructured data collected from a variety of sources.

#### **ANA 320 Data Management and Governance (4.50)**

**Prerequisite:** ANA 310

Duration: 4

Application of the Data Management and Governance Process for Analytics including: Data Structure, Privacy, Security, and working with Customer-Centered Databases. Evaluation of how these data relate and aggregates in databases, data marts, data warehouses, and data lakes and how they are used by analytical decision tools will be explored through case studies and projects.

#### **ANA 330 Data Preparation (4.50)**

**Prerequisite:** ANA 320 and MTH 330

Duration: 4

Develop skills to clean, transform, and prepare raw data for exploratory statistical Analysis. Transform and merge multiple data sources into a single useable data set for analysis. The progression will then focus on standardizing variable formats, investigating outliers, analyzing missing data, and in general conduct a thorough exploration of the dataset. This process will highlight the limitations, strengths, and potential biases of the dataset and how to reduce these biases.

#### **ANA 340 Data Mining (4.50)**

**Prerequisite:** ANA 330

Duration: 4

Apply Data Mining Methods to reduce data dimensionality and build predictive models for linear regression and classification trees. Hands-on work on practical data mining problems will be part of the course curriculum.

#### **ANA 350 Data Modeling (4.50)**

**Prerequisite:** ANA 340

Duration: 4

The process of data modeling and optimization will be continued with association analysis, cluster analysis, and other unsupervised learning methods. Hands-on work on practical data mining problems will be part of the course curriculum.

#### **ANA 420 Advanced Data Management (4.50)**

**Prerequisite:** ANA 350

Duration: 4

Develop the skills to acquire, organize, and manage data with open-source Python tools including Jupyter notebooks, Panda, and NumPy.



**ANA 430 Advanced Data Visualization (4.50)****Prerequisite:** ANA 420

Duration: 4

Develop Python skills to create high-quality visualizations and deploy interactive dashboards to effectively communicate data, methods, analysis, and results to maximize value for stakeholders of a Data Science project.

**ANA 480 Machine Learning Methods (4.50)****Prerequisite:** ANA 430

Duration: 4

Develop Python Skills to create Machine Learning models for supervised and unsupervised learning in a variety of Data Science applications.

**ANA 485 Neural Networks (4.50)****Prerequisite:** ANA 480

Duration: 4

Develop Python Skills to create models for deep learning and neural networking.

**ANA 499A Data Science Project I (4.50)****Prerequisite:** *Prior completion of all Major Prep, Major, and Concentration classes in BS Data Science program are to be completed before registering for this course.; ANA 485, or CYB 456, or BIO 471*

Duration: 4

Initiation of the Data Science team project to encompass all parts of the Data Science Life Cycle. Team building, team collaboration, and conflict resolution are implemented in the proposal of a Data Science project. Technical aspects of Data Acquisition, Data Management, Data Preparation, Data Mining, Data Modeling, and visualization are proposed in a presentation to project advisors and stakeholders.

**ANA 499B Data Science Project II (4.50)****Prerequisite:** ANA 499A

Duration: 4

Continuation of Data Science Team project. Data Acquisition, Data Cleaning, and Analytic Methodology are implemented and presented to project advisors and stakeholders in a written project report.

**ANA 499C Data Science Project III (4.50)****Prerequisite:** ANA 499B

Duration: 4

Completion of Data Science Team project. Technical aspects of Data Analysis, Data Mining, Data Modeling, and Data Visualization are implemented and presented to project advisors and stakeholders in a written project report.

**BIO 306 Survey of Molecular Biology (4.50)****Prerequisite:** BIO 305

Duration: 4

A survey of Molecular Biology focused on gene structure, organization, regulation and expression. Topics in Genetic Engineering and Genome Evolution are covered, as well as DNA replication, recombination, transcription and post-transcriptional mechanisms in both Eukaryotic and Prokaryotic cells.

**BIO 471 Adv. Bioinformatics (4.50)****Corequisite:** BIO 471A; **Prerequisite:** BIO 470

Duration: 8

Advanced analysis of Biotechnology-related information using programming tools to store, manipulate, and extract information from protein and nucleic acid sequence data. Topics include: Genome Annotation, Gene and Protein prediction, Sequence Alignment, and Analysis of Aligned Sequences in the description of patterns of Protein or Species relationships and Gene Expression.

**BIO 471A Adv. Bioinformatics Lab (1.50)**

**Corequisite:** BIO 471; **Prerequisite:** BIO 470A

Duration: 8

Advanced techniques are essential to Bioinformatics. Topics include: practical knowledge of databases, libraries in Python and/or R, verifying and evaluating analyses, developing a research project, and communicating results to Biologists.

**CYB 455 Network Data Analysis (4.50)**

**Prerequisite:** CYB 453

Duration: 4

A detailed examination of the collection and analysis of Computer and Network Log Data to detect cyber-attacks. Students will utilize a Security and Information Event Management (SIEM) tool to analyze various data. This course will focus on using a SIEM like Splunk or the ELK stack.

**CYB 456 Data Analytics for Cybersec (4.50)**

**Prerequisite:** CYB 455

Duration: 4

A survey of modern Data Analytics tools and techniques to analyze and solve cybersecurity problems. Students will apply Machine Learning Techniques for log analysis and to solve a cybersecurity problem.

**HRM 409B Intro to Human Resource Mgmt (4.50)**

Duration: 4

This course provides an overview of the myriad of human resource management activities performed in the workplace. Topics include human resource planning, job analysis, staffing, recruitment, selection, retention, training and talent development, compensation and benefits, legal aspects, DE&I, discipline, performance management, labor relations, ethics, and health and safety.

**HRM 432 Talent Acquisition: Onboarding (4.50)**

Duration: 4

Evaluation of all aspects of reviewing the strategic direction of an organization as it relates to assessing and filling jobs, from initial recruitment and hiring through subsequent placement, onboarding, and retention. Examining DE&I theories and the importance of diversity, equity, and inclusion considerations while determining staffing needs, job analysis, interviewing, screening, evaluating, and promoting.

**HRM 433 Pay & Benefits Administration (4.50)**

Duration: 4

Evaluation of the fundamentals of wage and salary programs, including performing job evaluations, conducting salary surveys, adjusting pay structures, and relating pay to performance. Benefits programs and related employee incentives and service programs are covered. Linking performance to both extrinsic and intrinsic rewards will be reviewed. The incorporation of technology as it relates to human resource information systems (HRIS) that increase pay and benefits administration is explored. The synthesis of pay, benefits administration, and HR technology integrates the selection, development and administration of practical programs and systems for attracting, motivating, and retaining a diverse workforce.

**HRM 439 Legal Compliance in HR Mgmt (4.50)**

Duration: 4

Analysis of the wide spectrum of legal and regulatory issues faced by human resource managers in the workplace. EEO laws, compliance requirements, and prevention of employment related liability are evaluated. Emphasis on the creation of DE&I policies for avoiding discrimination and creating a more diverse, equitable, and inclusive workplace. Federal statutes are reviewed. Case law is discussed and analyzed to prepare students to recognize and anticipate potential legal issues in the workplace.

**HRM 440 Training & Talent Development (4.50)**

Duration: 4

Exploration of all aspects of employee training and talent development in the workplace. Challenges faced by human resource managers related to the content of the developmental experience and the methods of delivering training programs will be reviewed. Challenges facing HR managers regarding globalization and an increasingly diverse workforce will be discussed. Understanding various methods of talent development and training activities are highlighted to ensure that employees have the skills, motivation, and resources to successfully meet an organization's ever-changing needs.

**HRM 442 Labor Relations (4.50)**

Duration: 4

Exploration of the labor relations process and its current applications in the workplace. The formation of labor unions, collective bargaining, and contract negotiations will be reviewed, as they relate to union workers and management. The evolution of labor laws will be discussed along with grievance and arbitration activities. Current judicial decisions will be examined. Ethical issues concerning bargaining behavior influences and employee empowerment will be addressed. Current events in labor relations are integrated throughout the covered material.

**HRM 444 Diversity, Equity & Inclusion (4.50)**

Duration: 4

Examination of the value of diversity, equity, and inclusion (DE&I) in the workplace. Discussion of the relevance of evaluating metrics associated with DE&I theories. Review of the benefits to organizations in the areas of costs, marketing, resource acquisition, creativity, problem solving, and flexibility as a result of valuing diversity. Discussions of equity and inclusion are examined as they relate to managing a diverse workforce.

**HRM 446 Workplace Health & Safety (4.50)**

Duration: 4

Examination of methods for promoting a safe work environment by creating a culture of safety. The Occupational Safety and Health Act (OSHA) is reviewed in connection with human resource management duties and responsibilities under the Act. Workplace violence and workplace bullying are explored along with measures to reduce incidents of violence in the workplace. Challenges faced by human resource managers in creating methods for identifying and coping with job stress are discussed.

**HRM 448 Managerial Leadership (4.50)**

Duration: 4

Examination of the roles managerial leaders perform and the importance of managerial leadership in the workplace. The link between sound managerial leadership and positive consequences for employees - and the organization as a whole - will be discussed. Skills possessed by managerial leaders are examined as they relate to enhancing employee satisfaction, motivation, and performance output. Interpersonal skills of communication, empathy, and coaching skills are explored in connection with managing conflict in the workplace.

**HRM 450 Workplace Ethics (4.50)**

Duration: 4

Utilization of a managerial framework for the examination of ethics in the workplace. Exploring the recognition of the link between workplace ethics and business success as part of an effective business strategy. Managerial best practices in workplace ethics are studied, providing students with an understanding of how ethical decision making occurs. Case analyses are employed to prepare students for real-life experiences involving issues of workplace ethics and assist students in developing skills needed to contribute to responsible business conduct.

**HRM 460 Capstone Project (4.50)**

**Prerequisite:** HRM 409B; HRM 439; HRM 444; HRM 432; HRM 440; HRM 433; HRM 442; ODV 400; ODV 420; ODV 410; HRM 446; HRM 448; HRM 450

Duration: 8

The Capstone course is designed to be the culminating work for the bachelor's degree in Human Resource Management. Under the guidance of the instructor, students will design a project to demonstrate their mastery of human resource management theories and the core components of the program, various managerial approaches, and frameworks. Students' deliverable will include scholarly research, attention to ethical frameworks, and critical analysis of their project.

**MKT 410 Strategic Marketing Leadership (4.50)**

**Prerequisite:** MKT 302A

Duration: 4

An introduction to the fundamental knowledge required to manage and lead a marketing team. This course is important because new marketing graduates in the 21st century require a unique set of marketable, proactive marketing management and change leadership skills, to thrive in the ever-changing global marketplace. This course sits atop the entire strategic marketing degree and covers the management and leadership skills needed to succeed in global markets, including such topics as cultural dynamics, management styles, and political and legal environments. Students learn how to assess their own personal style and understand how to access global marketing opportunities in conjunction with developing and implementing marketing strategies to capitalize on those opportunities.

**MKT 452 Marketing Law and Ethics (4.50)**

**Recommended Preparation:** MKT 302A

Duration: 4

The course introduces the marketing legal framework with a focus on companies related to ethics and consumer rights. Contemporary marketers need to understand the various laws in the domestic and international context for business-to-business, business-to-consumer, and the emerging business-to-individual context. The advent of the digital platform revolution, new communication channels, and new marketplaces, increase the mandatory need for knowledge of legal consequences connected to strategic decisions. The course focuses on marketing ethics, contract law, sales of goods, the marketing control act, and intellectual property rights (design, trademark, copyright, and patents). The students will also gain an understanding of ethical principles and sustainable considerations of importance in the business society.

**MKT 454 Marketing Economics (4.50)**

**Recommended Preparation:** MNS 205; ECO 203; **Prerequisite:** MKT 302A

Duration: 4

The course introduces students to the integration of marketing and economics. The key component of the course is to understand the fact that marketing is a branch of economic science, and how this is exacerbated in the digital age of attention to economics. The course focuses on the nature of demand and supply as it impacts the marketing leaders and associated plans, then reviews the impact of mergers and acquisitions, globalization, and the economics of advertising. The student will also gain an understanding of the role economic principles have in sustainable considerations of importance in business society.

**MKT 456 Sales Management (4.50)**

**Prerequisite:** MKT 302A

Duration: 4

This course is a comprehensive review and application of aspects of sales management. These include building a positive motivating culture and learning the tools needed for people management. Sales management requires a unique supervisory approach mixing motivational growth in conjunction with a constant psychological assessment perspective. The student will learn the importance of sales force resources planning, forecasting, territory management, and compensation execution. In line with scenario-based learning, the student will review typical sales management problems and potential solutions.

**MKT 466 Mktg Sci & Comp Intelligence (4.50)****Prerequisite:** MKT 302A

Duration: 4

In this course, the student will review the emerging role of data, machine learning, and artificial intelligence in the modern marketing manager. The emerging fourth industrial revolution (4IR) is expanding greatly because of platform technologies. As such, the marketing manager needs to become more scientific from a data science perspective, when evaluating and implementing strategic planning and tactical execution imperatives, in the ever-changing global marketplace. This course will include a good overview of the interaction between technical, business, and human aspects of the trend toward personalized marketing. We will explore biometric-focused artificial intelligence. In addition, the cultural, diversity, ethical, and legal responsibilities of emerging marketing managers will be examined.

**MKT 468 Pricing Strategy (4.50)****Prerequisite:** MKT 302A

Duration: 4

This course provides a foundational understanding of one of the most important aspects of marketing and business in general, pricing. The student will learn the importance of understanding various foundational pricing methods and the associated impact on how these decisions impact the need for profit maximization. The student will learn key economic and behavioral concepts associated with costs and consumer behavior. Pricing strategies such as cost plus, price skimming, and niche pricing will be covered, in conjunction with emergent models such as reverse auction and value-based pricing.

**MKT 472 Innov Value-Based Bus Models (4.50)****Prerequisite:** MKT 302A

Duration: 4

A course that gives the student an overview and practical application of contemporary methods for gathering, analyzing, and preparing market research for use in marketing decision-making. It focuses on defining organizational information needs and designing appropriate research methods to obtain it. Specific topic areas include qualitative and quantitative research methods, secondary research, internal market intelligence systems, and data analysis.

**MKT 494 Digital Marketing Capstone (4.50)****Prerequisite:** MKT 460; MKT 462; MKT 470; MKT 430; MKT 434; MKT 450; MKT 452

Duration: 4

This capstone course provides the student with a clear understanding of the digital marketing arena. As global Business is constantly confronted with the need to participate and manage in a real-time digital environment, there is a need to take advantage of digital technologies as a tool that could be argued as a necessity for competitive survival and advantage. Students will learn about the importance of online marketing in multiple settings such as the web, and mobile as the underpinnings of the social media-driven digital delivery ecosystem. The student will investigate the impact of the platform culture and how this global landscape creates new and exciting target markets in this rapidly evolving digital economy.

**MTH 330 Applied Statistical Methods (4.50)****Prerequisite:** MTH 210

Duration: 4

This course is a continuation of the Introductory Statistics MTH 210 course. It includes the study and application of descriptive statistics, data displays, measures of central tendency and variability, random variables, sampling distributions, estimation, hypothesis tests, linear regression, and correlation.

**ODV 400 Organizational Strat & Design (4.50)**

Duration: 4

Examination of the theories of organizational design concepts and strategies used by managers to position their company for success. The historical perspectives on organization design are discussed, along with current challenges faced by today's organizations. Strategic approaches to measuring organizational effectiveness are explored. Various experts' strategies are evaluated to gain an understanding of ways in which managers can give direction to organizations to remain competitive in the workforce.

**ODV 410 Workforce & Talent Management (4.50)**

Duration: 4

A survey of organizational development, career systems, and talent management. The course explores and defines the interrelationship of the three areas under the auspices of human resource development. The exploration examines these areas as they relate to helping practitioners achieve organizational goals and identify and develop employee talent. Students learn about both theory and practice as it relates to their ability to assist individuals while seeking greater consonance between individual, group, and organizational change and growth.

**ODV 420 Organizational Behavior (4.50)**

Duration: 4

A survey of the impact individuals, groups, and structures have on behavior within organizations for the purpose of applying such knowledge toward improving employee performance. A focus on work-related behavior with an emphasis on individual and group performance as it relates to organizational productivity. Exploration of the development of interpersonal skills and emotional intelligence, with a view toward equity and inclusion, to help all employees, supervisors, and managers improve their effectiveness.

**PMB 450 Agile Project Management (4.50)**

**Prerequisite:** PMB 440

Duration: 4

This course uses presentation, interactive exercises, and small-group work to explore agile concepts, principles, roles and responsibilities, and practices. Students will get hands-on experience with agile management tools and techniques and gain an understanding of how agile teams and projects work.

**PMB 460 Project Risk Management (4.50)**

**Prerequisite:** PMB 450

Duration: 4

This course covers the area of project risk management. It highlights the importance of risk management, particularly in the area of mitigation and response. The course covers essential risk management theory and concepts that support project environments that incorporate project risk planning, preparation, and response. The course also covers areas of risk identification, assessment, monitoring, and control. Students will also learn about qualitative and quantitative risk analysis techniques as they are applicable to the project risk management environment.

**PMB 470 Project Sustainability (4.50)**

**Prerequisite:** PMB 460

Duration: 4

This course will explore the principles of sustainability and how you can use this basic knowledge to increase the value in the projects you manage. You will also learn about the effects of climate change on projects and how to properly address the risks that arise from climate change.

**PMB 480 Emerging Trends in Proj. Mgmt. (4.50)**

**Prerequisite:** PMB 470

Duration: 4

This course will explore emerging trends in project management. Through selected case studies, you will follow current trends in project management—the innovations, approaches, and outcomes of projects in public works, urbanization, satellite exploration, financial services, manufacturing, healthcare, etc. Students also will analyze how best practices and continuous improvements have forged rapid developments and innovations in emerging subsectors—such as robotics, artificial intelligence, and sustainability—have drawn upon modernized planning and more accurate analytics.

**PMB 490 Project Management Capstone (4.50)**

**Prerequisite:** PMB 400; PMB 410; PMB 420; PMB 430; PMB 440; PMB 450; PMB 460; PMB 470; PMB 480

Duration: 4

This course focuses on integrating project management knowledge, skills, and techniques developed in previous courses. It emphasizes critical analysis, synthesis, and evaluation of the theories and application of project management. It includes a major research paper and presentations as well as opportunities for reflection.



## GRADUATE

### Class-Based

#### **SCM 435 eCommerce Cust Srv & Returns (4.50)**

Duration: 4

Customer service is one of the most important facets of logistics and the supply chain, and yet it is one of the least appreciated. Great customer service gives a business a key differentiating advantage over the competition. This course will cover the end-to-end process of transactions, customer service policies, order entry, and order processing. In addition, Returns Management (reverse Logistics) will also be studied. By properly managing returned products, a business can significantly cut losses by using undamaged returned items to restock warehouse inventory for resale. The Returns Management process is part customer support, part Logistics, and part Inventory Management. This course will focus on developing the most-cost optimum strategies to handle this key area of supply chain while maintaining world class customer service at total lowest cost.

#### **SCM 460 Robots, Drones, & Blockchains (4.50)**

Duration: 4

As goods progress on in its supply chain journey from manufacturer to customer, a product moves to increasingly smaller vehicles and acquires more specific delivery criteria. The first, middle, and last mile stages of the logistics journey are essentially defined by a gradual decrease in shipment size and distance from the final consumer. The last mile is the most visible stage of the logistics chain to the end consumer and hence is the most critical stage of delivery. In this course we explore how the complex problem of last mile delivery is solved by leveraging technology such as robots and drones. Additionally, advances in cloud computing and data interchange have revolutionized Supply Chain Management. Blockchain Technology can benefit supply chains by improving visibility and adding security of data. Track and trace capability of raw materials from source to manufacturing to customer will be leveraged using Blockchain technology.

#### **SCM 465 Data Visualization (4.50)**

**Prerequisite:** MNS 407

Duration: 4

Data visualization is one of the most powerful tools to explore and communicate patterns in quantitative data. We are living in a world where data is everywhere and permeates every single business decision. Data visualization techniques allow businesspeople to leverage their perception to convert data to information and make smarter, quicker, and more informed decisions. In addition, in this course we will cover the fundamental types of risk, probabilistic analyses of risks and cost management strategies. We will develop discrete event and system dynamic models to create an optimal risk management model.

#### **SCM 480 Capstone-SCM Strategy & Policy (4.50)**

**Prerequisite:** Prerequisite: All other Requirements for the Major courses (e.g. Business Core Requirements and LSCM Requirements) with a GPA of 2.00 or higher.

Duration: 4

A supply chain strategy & policy is a strategic vision backed up by a detailed executable plan that enables organizations to get their goods delivered to customers at low cost and on time, every time. Gaining a market edge over your competition requires leveraging fundamentally sound principles that together build a strategy that retains loyal customers. Using real life case studies and simulations, this course will reinforce business critical skills and the importance of cross functional collaboration across the supply chain.

### **SCM 481 Professional Cert Exam Prep (3.00)**

**Prerequisite:** *SCM 480*

Duration: 4

Concepts and processes from all topics within Supply Chain Management are integrated for application in business situations. Focusing on strategies and technologies will advance knowledge and appreciation for the complexities of Global Supply Chains. Assessment of alternative plans and strategies will prepare students for decision-making roles. Topics include: Integrated Supply Chain Management, Demand and Supply Integration, Supply Management and Procurement, Manufacturing and Service Operations, Transportation, Inventory Management, Warehousing, and Order Fulfillment and Customer Service. Passing professional exams provides additional opportunities and greater versatility for employment options within the Supply Chain Management profession. Grading is S/U only.

## **GRADUATE1:1**

### **ENT-5100 - Foundations of Entrepreneurship**

**Semester Credits:** 3 **Weeks:** 8

This course gives the student an overview of the entrepreneurial process. In this course, the student will look at entrepreneurship as a mindset—a way of looking at things differently that is opportunity-focused and creative. Topics covered include characteristics of successful entrepreneurs, techniques for finding and screening ideas, entrepreneurial finance, the politics of new ventures, valuation, and deal-making, understanding writing a business plan and business canvas model, buying a business, family business/ lifestyle business dynamics, and managing crisis and failure. The student will learn the fundamentals and challenges of entrepreneurship - from conceptualizing new ventures and opportunities to developing and managing them.

### **ENT-5105 - Ideation and Opportunity Identification**

**Semester Credits:** 3 **Weeks:** 8

In this course, students will apply the principles of entrepreneurship or intrapreneurship toward the formation of a new venture. Students will evaluate business plan structures to determine the best approach to support a new venture. Students will then select business practices for the efficiency of operation for the new venture. Next, they will evaluate the feasibility of the new venture utilizing the University Small Business Incubator community. Documenting strengths, weaknesses, opportunities, and threats (SWOT analysis) will follow. Finally, the student will determine timelines, presentations, and other deliverables for potential investors or stakeholders.

### **ENT-5110 - Environmental Analysis**

**Semester Credits:** 3 **Weeks:** 8

In this course, the student will investigate the concepts and methods for environmental analysis in entrepreneurial environmental problem-solving. The student will prioritize concepts and methods of economic, political, and social analysis for the design and evaluation of environmental opportunities and problems. The student will critique the roles and identities of business owners and the various roles played in an interconnected world. The student will classify the transnational character of environmental problems and ways of addressing them within a new venture. Finally, the student will assess the relevant environmental issues and the links between success and failure in a new or growing venture.

### **ENT-5115 - New Venture Resource Development and Analysis**

**Semester Credits:** 3 **Weeks:** 8

In this course, the student will recommend a list of new venture resources, analyze strategic choices for new venture resources, and evaluate challenges relating to the acquisition and management of necessary resources for new ventures. The student will validate a strategy for developing tools and skills with the growth of a new venture. Finally, the student will demonstrate proficiency in searching for and locating resources needed at different stages of venture creation and operational efficiency.



## **ENT-5120 - Financial Management**

**Semester Credits:** 3 **Weeks:** 8

In this course, the student will examine the value of budgets in new venture creation and growth. The student will assess the steps in creating and managing the budget processes for organizational efficiency and agility. The student will apply effective techniques for managing money in business software applications. The student will prepare monthly financial reports and conduct an analysis of costs and their associated benefits. The student will also audit common money management mistakes of early business development and operation.

## **ENT-5125 - Business Plan Creation**

**Semester Credits:** 3 **Weeks:** 8

In this course, the student will analyze how a business plan helps companies make decisions with the future in mind. The student will explore the difference between a business plan and a business canvas model and then diagram the parts of a business plan. The student will next develop a business plan and then validate the use of a business plan for ensuring success and meeting stakeholder needs.

## **ENT-5130 - Legal Structure and Organization**

**Semester Credits:** 3 **Weeks:** 8

In this course, the student will illustrate the most common types of legal structures available to startups. The student will dissect the most common legal errors made by startups and in early operation. The student will assess how legal considerations can add value to entrepreneurial ventures. Next, the student will explore Intellectual Property and how it affects entrepreneurs and their decisions. Then the student will assess the impact of Intellectual Property theft in a local and global market. Finally, the student will document the legal requirements of hiring employees for startup, growth, and organizational agility to meet stakeholder needs.

## **ENT-5135 - Entrepreneurial Strategy and Decision Making**

**Semester Credits:** 3 **Weeks:** 8

In this course, the student will document an entrepreneurial business strategy for startup and growth. The student will explore the function of the entrepreneur in the successful, commercial application of innovation. The student will investigate personal attributes that impact entrepreneurial decision-making for agility and change. The student will also evaluate entrepreneurial leadership and management styles concerning strategy and decision-making. Finally, The student will examine the nature of entrepreneurship thinking from startup to expansion in a constantly changing business environment.

## **ENT-5140 - Pricing, Marketing, and Expansion**

**Semester Credits:** 3 **Weeks:** 8

In this course, the student will investigate the contribution of marketing to a business. The student will justify the use of primary and secondary sources of information for marketing data while identifying the advantages and disadvantages of each. The student will apply the four steps of target marketing: mass marketing, market segmentation, concentrated marketing, and micro market toward competitive advantage. The student will also dissect the stages of the product life cycle in the competitive market environment addressing the importance of measuring return on marketing investment. Finally, the student will critique types of consumer buying behaviors and the stages of buyer decision-making processes as they relate to the components of the marketing mix.

## **ENT-5200 - Capstone**

**Semester Credits:** 3 **Weeks:** 8

In this capstone course, the student will demonstrate an entrepreneurial mindset through the creation of a prototype for a new business opportunity from market analyses. The student will analyze other businesses and indicators for the success of your new venture. The student will demonstrate collaborative opportunities for your new venture. The student will explain the marketing concept of your new venture and then optimize your business plan with an Incubator.

**MLB-5000 - Introduction to U.S. Law and Legal Systems****Semester Credits: 3 Weeks: 8**

In this course, students will examine how the legal system in the United States was created, and how it has changed over time. Students will be oriented to the sources and types of law, the process of creating and enforcing laws, and the methods of resolving legal conflicts. The course will introduce students to various substantive areas within the law and they will have the opportunity to read and interpret primary legal sources.

**MLB-5010 - Legal Research, Writing, and Analysis****Semester Credits: 3 Weeks: 8**

In Legal Research, Writing, and Analysis, students will learn the fundamentals of legal research, writing, and analysis. Students develop and execute research strategies and conduct searches through dedicated legal search engines to locate primary authority. Along with research methods, students will analyze legal concepts, and apply them through the process of legal writing. Students gain the skills and resources needed to communicate their research effectively.

**MLB-5020 - Ethics and Professional Conduct****Semester Credits: 3 Weeks: 8**

This course will examine the fundamental ethical and legal theories and issues that impact the business environment. This course will focus on specific ethical and legal rules that govern business practices, including whistleblower laws, privacy, technology, diversity, product liability, contracts, and intellectual property. In addition, the course will examine and analyze case studies that assist in identifying relevant ethical and legal standards within a business environment.

**MLB-5030 - Civil Procedure and Litigation****Semester Credits: 3 Weeks: 8**

Civil procedure is the roadmap that litigants, lawyers, and judges use to navigate the civil legal system. Whether they are state-specific, or contained in the Federal Rules of Civil Procedure, the rules describe, among other things, how to commence a case, what the time frames are for answering a complaint or responding to a motion, and how to conduct a trial. This course explores how the rules provide guidance on all aspects of the civil case from pre-action filings through post-trial procedures. In this class, you will learn that civil procedure and litigation are inextricably intertwined because only by following proper procedure can one successfully commence a case, perform discovery, prepare for trial, pick a jury, and then try the case.

**MLB-5040 - Contract Law: Analysis and Drafting****Semester Credits: 3 Weeks: 8**

In this course, students will be introduced to the legal issues and fundamental building blocks related to contract formation, enforcement, avoidance, and termination. Students will also examine the drafting and interpretation of certain common contractual provisions and the analysis of basic contract language.

**MLB-5050 - Strategic Professional Communication****Semester Credits: 3 Weeks: 8**

This course is offered to increase understanding and develop an appreciation of communication processes in law and business. Topics covered include effective writing and speaking methodologies for a variety of audiences, interpersonal communication techniques within global legal and business environments, the utilization of effective tone and language in virtual and non-virtual settings, and so on. Students will be expected to prepare and present business and law-related written assignments and oral presentations.

**MLB-5100 - Healthcare Legal Compliance****Semester Credits: 3 Weeks: 8**

This course will serve as an advanced study of leading-edge concepts and laws concerning the interaction and business between healthcare providers and those served in compliance. Topics will

include ethical considerations, patient record requirements, confidentiality and informed consent, access to public health information, risk management, and health care fraud and abuse. Law cases in healthcare compliance will be examined. Readings will include the textbook and web-based resources.

### **MLB-5200 - Law and Organizational Management**

**Semester Credits: 3 Weeks: 8**

In this course, students will learn the fundamental questions and issues relating to the formation and organizational structure of a variety of business entities commonly used in the United States. Further, students will explore substantive areas of law and the regulatory environment that are often needed and encountered in operating a business.

### **MLB-5300 - Spanish for Professionals in Law and Business**

**Semester Credits: 3 Weeks: 8**

This course provides a knowledge of basic Spanish terminology to assist professionals in the business and legal profession communicate with clients and other professionals, including a focus on Spanish vocabulary used in a range of legal and business situations. The course will be taught in English and will explore Spanish basic terminology, both in a written and oral format, that deals with a range of professional and legal situations, including seeking employment, business travel, business, and legal correspondence, gathering client information, immigration law, real estate transactions, employment law, criminal and personal injury law, telephone, and office etiquette.

### **MLB-5310 - Immigration Law**

**Semester Credits: 3 Weeks: 8**

In this course, students will learn the basics of immigration law in the United States. Students will learn about the historical development of U.S. immigration law from its founding to today and about the structure of the federal government and its role in establishing and implementing U.S. immigration law. Students will examine the sources of immigration law, the process of creating and enforcing it, and how it is applied in the workplace. Students will learn about important immigration concepts, such as admissibility, visas, citizenship, protection from harm, and removability. The course will introduce students to the various ways people come to the U.S., whether through nonimmigrant or immigrant visas, employment-based or family-based visas, or entrepreneurship.

### **MLB-5400 - Intellectual Property**

**Semester Credits: 3 Weeks: 8**

This course is a study of core areas of the business and legal aspects of intellectual property: trademarks, trade secrets, patents, and copyrights. It examines the fundamental principles of these bodies of law, their underlying policies, and how the laws interrelate. Specific focus will be on ethical situations involving intellectual property. Students will also read cases and prepare briefs on areas related to the subject matter.

### **MLB-6000 - MLB Capstone**

**Semester Credits: 3 Weeks: 8**

The capstone course is designed not as an end to a journey but as a beginning. It is a case-based approach, grounded in business and legal literature and study that allows the student to come full circle in his/her scholastic journey. The student will research and provide written analyses on various topics in legal and business fields including but not limited to contracts, torts, etc. In this way, the student will demonstrate his/her ability to integrate practical skills and theoretical knowledge obtained in earlier courses. Activities include the drafting of case briefs.

### **PAC-5010 - Privacy Law and Data Protection**

**Semester Credits: 3 Weeks: 8**

This course will help students acquire a solid knowledge of the statutory landscape in the U.S. Students will explore the practical aspects of navigating complex privacy requirements to better understand

privacy laws and data protection. Students will evaluate best practices and historical context to protect an organization and safeguard P.I.

**PAC-5020 - Internal and External Compliance**

**Semester Credits:** 3 **Weeks:** 8

This course will explore the strategies for assessing risks and managing compliance functions. Students will be introduced to compliance programs that address an organization's specific risk profile. The impact of a robust and ethical compliance program will be explored. Students will evaluate formal compliance programs and recommend practical strategies to create compliance policies and procedures that address and prevent corruption.