The College of Business and Economics is accredited by AACSB International, the Association to Advance Collegiate Schools of Business. Graduate degree programs offered by the college include the Master of Business Administration, the Master of Science in Accounting and Information Analysis, the Master of Science in Applied Economics, the Master of Science in Management, and the Ph.D. in Business and Economics. Graduate certificate programs offered include Advanced Corporate Entrepreneurship and Supply Chain Management. Interdisciplinary degree programs (http://catalog.lehigh.edu/coursesprogramsandcurricula/interdisciplinarygraduatestudyandresearch) are offered through partnerships with other colleges: P.C. Rossin College of Engineering and Applied Science - Master of Business Administration and Engineering; P.C. Rossin College of Engineering and Applied Science and the College of Arts and Sciences-Master of Science in Analytical Finance; College of Education-Master of Business Administration and Educational Leadership.

Courses for the programs are taught by faculty from the Accounting (http://catalog.lehigh.edu/coursesprogramsandcurricula/businessandeconomics/accounting/#faculty), Economics (http://catalog.lehigh.edu/coursesprogramsandcurricula/businessandeconomics/economics/#faculty), Finance (http://catalog.lehigh.edu/coursesprogramsandcurricula/businessandeconomics/finance/#faculty), Management (http://catalog.lehigh.edu/coursesprogramsandcurricula/businessandeconomics/management/#faculty), and Marketing (http://catalog.lehigh.edu/coursesprogramsandcurricula/businessandeconomics/marketing/#faculty) departments.

GRADUATE DEGREES IN BUSINESS ADMINISTRATION AND ECONOMICS

Candidates for admission to graduate study in the College of Business and Economics must provide the results obtained in the Graduate Management Admissions Test (GMAT) for the degree in accounting and information analysis. The GMAT or the Graduate Record Examination general test (GRE) must be submitted for degrees in business administration, analytical finance, economics and management. International applicants are required to take the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) for admission to the program. Please consult with your program of choice to determine which English tests are appropriate for submission.

MBA PROGRAM

Lehigh MBA programs provide rich learning experiences for students. The College of Business and Economics offers two MBA programs: the One Year Full-Time MBA program (1-MBA) and the Flex MBA program.

ONE YEAR FULL-TIME MBA PROGRAM

The One Year Full-Time MBA Program (henceforth 1-MBA) is designed for individuals who already have at least three years’ work experience and wish to either pivot their careers into a business-related area which may not be in their previous field of employment, or accelerate their career within their chosen field. This MBA program is designed to accommodate those from non-business related fields, as well as students whose undergraduate major is in business but who may want to change their focus, such as from finance to marketing. The 1-MBA program, which starts each summer, is a cohort-based, lockstep program initially to develop core knowledge of functional areas and team building. These courses emphasize a stakeholder perspectives approach. A consulting practicum provides students with substantive and practical hands-on experience. The final part of the program emphasizes building domain expertise via electives and a focus on data analytics and leadership. Another feature is a dedicated coaching team consisting of a professional staff member, an alumnus, and a faculty member.

1-MBA Mission Statement

The One Year Full-Time MBA Program (henceforth 1-MBA) develops and positions students for organizational and career success as strategic thinkers in an environment that seeks solutions beneficial to business and society. In a 12-month program format, it provides not only a rigorous and comprehensive coverage of fundamental business principles but also helps students use an integrated framework for addressing large, multi-stakeholder organizational challenges. Students in the 1-MBA program will apply their learning with an in-depth summer internship experience and also will have opportunities of extensive networking with peers, alumni, experienced executives, faculty, and coaching professionals.

Program Admission Requirements

Admission to the 1-MBA program will be based on standardized scores on the GMAT or GRE, college transcripts with undergraduate degree conferred, 3 recommendation letters, candidate essays, and interviews. Three (3) years of professional work experience is required. International students must show English proficiency as measured by the TOEFL or IELTS.

Program Requirements

Necessary pre-requisites for students prior to arrival on campus to begin the program:

1. Calculus knowledge as evidenced by an acceptable grade in a college-level calculus class
2. English proficiency (for international students) as evidenced by a high TOEFL or IELTS score and via interviews by the admissions committee
3. Economics knowledge as evidenced by an acceptable grade in a college-level elementary economics course
4. Acceptable grades in Approved Online Tests as determined by program faculty, such as (a) Quantitative Methods, (b) Statistics, (c) Excel

Curriculum Overview

- Project Management, Professional Development, Quantitative Elements, Societal Shifts-Part 1 (4 weeks) 9.0 credits
- Functional Area Core Knowledge (8 weeks) 7.5 credits
- Stakeholder Perspectives Session (8 weeks) 7.5 credits
- Professional Development and Consulting Practicum-Part 1 (14-week period encompassing Functional Area Core and Stakeholders Perspectives Session2.5 credits
- Integrating Societal Shifts-Part 2 (2 weeks) 4.0 credits
- Data Analytics, Consulting Practicum- Part 2, Capstone, and Electives (14 weeks) 16.5 credits
- Total 47.0 credits

Further information about the 1-MBA Program may be obtained by contacting the Graduate Programs Office of the College of Business and Economics, Lehigh University, College of Business and Economics, 621 Taylor Street, Bethlehem PA 18015

phone: (610) 758-4386
email: mba.admissions@lehigh.edu (mba.admissions@lehigh.edu)
www.lehigh.edu/mba

FLEX MBA PROGRAM

Lehigh’s Flex MBA curriculum is a fully integrated model which simulates the business environment in the classroom. Business issues are viewed and taught from the perspective of the firm as a whole rather than along departmental lines. Flex MBA students acquire skills in leadership, managerial communication, and resource allocation coupled with a comprehensive understanding of complex domestic and global business issues.

Due to the compact and integrated core, students have increased flexibility to tailor the program to their individual needs. Students may select a concentration in corporate entrepreneurship, finance, international business, marketing, project management, or supply chain management or pursue a broader experience by selecting courses from a variety of disciplines. Students may only have one concentration.

The Flex MBA program is available both on campus and online. Students may opt to attend class through both methods of delivery. Flex MBA concentrations in finance, international business, marketing,
and supply chain management are currently available through online study.

**Flex MBA Mission Statement**
The Flex MBA program will further the development of organizational leaders and managers. This is accomplished by honing students’ knowledge, skills and abilities through a comprehensive and integrated core curriculum and customized concentrations designed to meet individual needs. The Flex MBA program will also foster life-long learning through continuing professional education programs.

**Innovative Structure**
The Flex MBA Program requires 36 credit hours. Full-time students can fulfill that requirement in 12 to 16 months. Part-time students average three years to complete the degree.

**Core Courses**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBA 401</td>
<td>Introduction to the Organization and its Environment</td>
<td>2</td>
</tr>
<tr>
<td>MBA 402</td>
<td>Managing Financial and Physical Resources</td>
<td>4</td>
</tr>
<tr>
<td>MBA 403</td>
<td>Managing Information</td>
<td>4</td>
</tr>
<tr>
<td>MBA 404</td>
<td>Managing Products and Services</td>
<td>4</td>
</tr>
<tr>
<td>MBA 405</td>
<td>Managing People</td>
<td>4</td>
</tr>
<tr>
<td>MBA 406</td>
<td>Integrative Experience</td>
<td>3</td>
</tr>
</tbody>
</table>

**Electives**

Select 15 credit hours of elective course work

<table>
<thead>
<tr>
<th>Electives</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

**Total Credits**

| Total Credits | 36 |

1 Students are permitted to design an area of study in consultation with their adviser to best suit their career goals or they may choose to complete an area of concentration. Concentrations in international business and supply chain management require nine credit hours of approved electives. Concentrations in corporate entrepreneurship, finance, marketing, and project management require twelve credit hours of approved electives. Students may also complete a maximum of six credit hours of electives outside of the College of Business and Economics (but within Lehigh University). All elective courses must be at the 400 level.

**Prerequisites**

Students should have completed undergraduate courses in computer literacy, and principles of microeconomics and macroeconomics. The prerequisites of financial accounting and statistics may be completed after acceptance into the Flex MBA program.

The statistics prerequisite may be fulfilled by having taken a class within the past 5 years and receiving a “B” or better, by taking a proficiency exam administered through the College, or by enrolling in Basic Statistics for Business and Industry or equivalent. The Accounting prerequisite may be waived by enrolling in Financial Accounting for Managers and Investors at Lehigh or by taking a proficiency exam administered by the College.

If a student has no previous background in financial accounting or statistics, he/she is encouraged to take a course in the subject area. If a student has previously taken coursework but has not achieved a grade of “B” or the course has exceeded the time limit, self-directed learning and a proficiency exam may be appropriate.

The prerequisites of financial accounting and statistics must be completed before enrolling in MBA 402 Managing Financial and Physical Resources and/or MBA 403 Managing Information.

**Electives**

Students will take 15 credit hours of elective course work. Students are permitted to design an area of study in consultation with their adviser to best suit their career goals or they may choose to complete an area of concentration. Concentrations in international business and supply chain management require nine credit hours of approved electives. Concentrations in corporate entrepreneurship, finance, marketing, and project management require twelve credit hours of approved electives. Students may also complete a maximum of six credit hours of electives outside of the College of Business and Economics (but within Lehigh University). All elective courses must be at the 400 level.

**Waiver Policy**

There are no waivers for courses in the Flex MBA Program.

**GMAT or GRE Scores**

All applicants are required to take the Graduate Management Admissions Test (GMAT) administered by Pearson Vue or the Graduate Record Exam (GRE) administered by the Educational Testing Service (ETS). Only GRE scores from the revised version taken after August 1, 2011 will be accepted.

**Work Experience**

Students are required to have a minimum of 2 years of full-time, professional work experience.

**International Students/TOEFL**

International students must have 16 years of formal education, including four years at the university level, to be considered for admission to Lehigh’s graduate programs. Applicants whose native language is not English are required to take the Test of English as a Foreign Language (TOEFL). For information, write or call the TOEFL Registration Office, P.O. Box 6154, Princeton, N.J., 08541-6154 or at www.toefl.org (http://www.toefl.org).

**Flexible Class Scheduling**

Classes are scheduled Monday through Thursday evenings, with seminars offered on Fridays and Saturdays and full week immersions available. Part-time students may complete the entire program with evening classes. Many students accelerate completion of the program by taking courses during the two six-week summer sessions.

Further information about the Flex MBA Program may be obtained by contacting the Graduate Programs Office of the College of Business and Economics, Lehigh University, College of Business and Economics, 621 Taylor Street, Bethlehem PA 18015

phone: (610) 758-4386
email: mba.admissions@lehigh.edu (mba.admissions@lehigh.edu)
www.lehigh.edu/mba

**MASTER OF BUSINESS ADMINISTRATION AND EDUCATIONAL LEADERSHIP**

The MBA & Educational Leadership joint degree program offers students the opportunity to acquire a solid foundation in both business and education. Designed to develop the administrative skills required in today’s educational systems, the MBA/Ed. Leadership provides a framework where excellent education and sound business practices can flourish. The MBA/Ed. Leadership will provide an additional option for business students in educational leadership. The program will enhance the students’ marketability in private and public sector education while providing students with an understanding of the cultures of both business and education. Core courses from both colleges will ensure that recipients of the joint degree will bring to their future positions an extraordinary medley of skills to manage human and financial resources efficiently while employing expertise in instructional supervision and training in both education and corporate settings. This program of study will enhance training and skills for those currently in the area of business and financial management in the field of education. The Lehigh MBA and Educational Leadership degree is a joint, 45 credit hour program.

**ADMISSION REQUIREMENTS**

Applications need to be approved through both the MBA Program and the Educational Leadership program. Students are required to take the GMAT. Students must have at least 2 years of professional post graduate work experience to apply for this joint degree program.

Further information about the program may be obtained by contacting Dr. Floyd D. Beachum, Associate Professor, College of Education, 610-758-5955 or fdb209@lehigh.edu.

**MASTER OF BUSINESS ADMINISTRATION AND ENGINEERING**

The University is committed to developing leaders in business and in industry: the MBA & Engineering degree unites two premier programs in one powerful joint degree by offering a solid foundation in both business and engineering.
Graduates of the MBA & Engineering program will be prepared to assume leadership positions in industrial planning, venture capital, and engineering management; and as senior managers in roles requiring both technical and business acumen.

The 45 credit hour program is taught in an interactive manner by faculty who are leaders in their fields with a wealth of practical experience; it also combines core business courses and a core of engineering courses:

The basic 45 credit hour course sequence consists of:

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBA core courses</td>
<td>18</td>
</tr>
<tr>
<td>Engineering core</td>
<td>12</td>
</tr>
<tr>
<td>Business electives</td>
<td>5</td>
</tr>
<tr>
<td>Engineering electives</td>
<td>6</td>
</tr>
<tr>
<td>Free electives</td>
<td>3</td>
</tr>
<tr>
<td>Integrated project</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>45</strong></td>
</tr>
</tbody>
</table>

Students can choose an appropriate engineering curriculum from any of the following programs – chemical engineering, civil engineering, computer engineering, computer science, electrical engineering, environmental engineering, industrial and systems engineering, manufacturing systems engineering, materials science and engineering, mechanical engineering, or polymer science and engineering.

### MBA Core Courses

<table>
<thead>
<tr>
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<td>4</td>
</tr>
<tr>
<td>MBA 405</td>
<td>Managing People</td>
<td>4</td>
</tr>
</tbody>
</table>

### ENGINEERING CORE COURSES

Each engineering program has its own set of core courses. Course choices are intended to be as flexible as possible, and are tailored to meet the needs of individual students. Further information can be obtained from the appropriate departmental graduate coordinator, or from the Office of Graduate Studies (610-758-6310) in the P.C. Rossin College of Engineering and Applied Science.

### ELECTIVES

Engineering electives are chosen from courses in the appropriate P.C. Rossin College of Engineering and Applied Science (RCEAS) engineering program and the business electives are selected from course offerings in CBE. Electives can also be chosen from joint courses that are being developed by RCEAS & CBE.

### PROJECT

A short interdisciplinary project is required of all students. Project topics, based on the specific interests of each student, will be developed by CBE and RCEAS faculty.

### ADMISSIONS

Applications must be accepted by the MBA program and by the relevant department in the P.C. Rossin College of Engineering and Applied Science. When required by the engineering program, students must take the GRE. If this is not required, then the GMAT or GRE examination must be taken. Students will not be required to take both tests.

Further information can be obtained from:

Office of Graduate Studies  
P.C. Rossin College of Engineering & Applied Science  
610-758-6310  
www.lehigh.edu/engineering

or

The Graduate Programs Office  
College of Business & Economics  
610-758-3418

www.lehigh.edu/mba

### MASTER OF SCIENCE IN ACCOUNTING AND INFORMATION ANALYSIS

The Lehigh Master of Science in Accounting and Information Analysis (MSAIA) degree program offers an outstanding opportunity to prepare for a career in today’s demanding field of accounting. Accounting professionals are engaged in a variety of services, including assurance (auditing), business valuation, information resources, and consulting. The program focuses on using information and technology to improve business processes and forge business solutions. Accredited by AACSB International, the Association to Advance Collegiate Schools of Business, Lehigh's M.S. in Accounting and Information Analysis program satisfies the 150-hour CPA educational requirement adopted by almost all states. The program serves as an excellent foundation for professional careers as CPAs, CMAs and related fields. It provides the broad business education employers value so highly.

The Master of Science in Accounting and Information Analysis curriculum is designed to be flexible so that students may choose to concentrate their electives in a specific field, such as finance, or use them for breadth.

Students are encouraged to obtain an internship during the summer prior to beginning the program. The internship will complement the chosen concentration and provide an excellent practical framework to enrich the academic coursework experience.

### Non-Accounting Majors

The M.S. in Accounting and Information Analysis program seeks applicants from a variety of academic backgrounds. Those with undergraduate business degrees in fields other than accounting often lack eighteen credits of background requirements in intermediate accounting, cost accounting, accounting information systems, fundamentals of federal income taxation and auditing. To the extent possible, applicants should take those courses during their undergraduate programs.

Applicants who do not have an undergraduate business degree will likely require two years to complete the program. The first year is devoted to background courses and the second to the graduate program itself.

### Mission Statement

Lehigh University’s Master of Science in Accounting and Information Analysis provides a broad business education and the specialized coursework for a professional career in accounting. Graduates aspire to leadership positions at top-tier organizations in fields that include public accounting, corporate accounting, financial services, consulting, and information systems. Through this program, Lehigh continues a long tradition of providing accounting majors with the necessary educational requisites for licensure as certified public accountants within the United States and its territories. The program seeks only the best and the brightest applicants: motivated, dedicated to their studies, not afraid of challenges, possessing confidence, self-discipline, and the ability to articulate their ideas orally and in writing. The program continually pursues the excellence necessary to meet the standards of only the highest-quality educational institutions.

### Core Program

The MSAIA core consists of fifteen credits in the courses shown below and thirty credits overall. Designed specifically for this program, and dedicated to it, these innovative courses seek to develop a set of skills and experiences not available in undergraduate programs that will enhance MSAIA students’ ability to perform throughout their chosen careers. Core courses are offered once each academic year.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MACC 412</td>
<td>IT Auditing</td>
<td>3</td>
</tr>
<tr>
<td>MACC 413</td>
<td>The Corporate Financial Reporting Environment</td>
<td>3</td>
</tr>
<tr>
<td>MACC 424</td>
<td>Governance, Risk and Control</td>
<td>3</td>
</tr>
<tr>
<td>MACC 420</td>
<td>Forensic Accounting and Auditing</td>
<td>3</td>
</tr>
<tr>
<td>MACC 427</td>
<td>Reporting and Auditing Fair Value Estimates</td>
<td>3</td>
</tr>
</tbody>
</table>
ELECTIVES
Select 15 hours in electives, 3 of which must be in accounting 15
Total Credits 30

Evaluative
The MSAIA curriculum provides for fifteen elective credits that students may use to specialize in an area of interest or to augment one’s general business education. Frequently-taken electives include graduate-level courses in taxation and business decisions, financial statement analysis, corporate financial management, investments, strategic supply management, managerial economics, and strategic marketing management. Three of the elective credits must be in Accounting.

Waiver Policy
There are no waivers for courses in the M.S. in Accounting and Information Analysis Program.

GMAT Scores
All applicants are required to take the Graduate Management Admissions Test (GMAT) administered by Pearson Education, Inc. GMAT scores have been averaging 670. A score of at least 600 and 50th percentile in the quantitative section will improve the prospects for admission. Undergraduate students should take the exam in the senior year. To make an appointment to take the GMAT exam call 1-800-717-GMAT (4628) or by registering online at www.mba.com (http://www.mba.com). The GMAT is waived for Lehigh accounting majors.

Presidential Scholars
Presidential Scholars must meet normal admission standards.

International Students/TOEFL®
International students must have 16 years of formal education, including four years at the university level, to be considered for admission to Lehigh’s graduate programs. Applicants whose native language is not English are required to take the Test of English as a Foreign Language (TOEFL®). For information, contact www.ets.org/toefl (http://www.ets.org/toefl). The MSAIA program features considerable student/faculty interaction in class. Very good English language skills are therefore highly important to success in the program. An internet-based TOEFL (IBT) of 105 will improve the prospects for admission. Admitted applicants typically are required to complete the English as a Second Language American Business English (ABE) program before beginning their graduate program.

Further information about the MSAIA program may be obtained by contacting the Graduate Programs Office of the College of Business and Economics, Lehigh University, 621 Taylor Street, Bethlehem PA 18015; email: sethrs@lehigh.edu.

http://cbe.lehigh.edu/msaia

MASTER OF SCIENCE IN APPLIED ECONOMICS
The program requires 30 credit hours, typically completed in 16 months starting in the fall of one academic year and finishing in the fall of the subsequent year. Some students may complete the program in 12 months by taking extra courses in the fall and spring semesters and in the summer session.

Core Required Courses 15
ECO 402 Managerial Economics 3
ECO 403 Econometric Software 3
ECO 412 Mathematical Economics 3
ECO 415 Econometrics I 3
ECO 417 Advanced Macroeconomic Analysis 3

Program Tracks - choose one of the two tracks below 9
A. Competition and Market Analysis
ECO 404 Applied Microeconometrics 3
ECO 447 Economic Analysis of Market Competition 3

Plus one of the following:
ECO 456 Industrial Organization 3
ECO 463 Topics in Game Theory 3
ECO 325 Consumer Insights through Data Analysis 3
ECO 336 Antitrust, Regulation, and the New Economy 3
B. Policy Economics
BIS 448 Predictive Analytics in Business 3

Elective Courses 6
Substitutions may be permitted for courses that count toward the program tracks, with approval of the M.S. program advisor. Students may choose to write a master’s thesis as part of their elective credits. The thesis is worth up to six credit hours and is particularly encouraged for those who may be considering a Ph.D. in economics. The M.S. in Applied Economics Director must approve all elective course work.

Further information about the M.S. in Applied Economics Program may be obtained by contacting the Graduate Programs Office of the College of Business and Economics or Professor Seth Richards-Shubik, Director M.S. in Applied Economics Program, Lehigh University, College of Business and Economics, 621 Taylor Street, Bethlehem PA 18015, email: sethrs@lehigh.edu
phone: (610) 758-6243
email: business@lehigh.edu
http://cbe.lehigh.edu/mseco

MASTER OF SCIENCE IN MANAGEMENT
The Master of Science in Management (M2) is a 10 month program designed to build core business education onto the foundation of a liberal arts or scientific degree (such as engineering or history). M2 is ideal for students who want to enter the work force and ready to hit the ground running from day one. Eligible applicants are college seniors or recent (one year out) graduates without undergraduate business degrees or majors. Economics majors are welcome. College calculus is helpful but not mandatory for admission.

Students will have classes that include accounting, finance, statistics, management, economics and marketing. The program is structured to provide classroom instruction in the fall and spring semesters. In addition the program will include career exploration, trips, and professional development focused on job acquisition and job acclimation. During the January intersemester students have the opportunity for optional experiential learning through focused corporate engagements, consulting projects, Lehigh Silicon Valley, and/or international immersion experiences.

ACCT 442 Financial Reporting and Analysis 3
ACCT 444 Accounting for Decision Making 2
BIS 423  Management Information Systems  2
ECO 409  Money, Banking and Macroeconomic Analysis  2
ECO 427  Statistical Analysis for Management  2
ECO 448  Business Economics  3
FIN 418  Principles of Corporate Finance and Investments  3
LAW 417  Regulatory Environment of Business  2
MGT 416  Managing Talent  3
MGT 461  Strategic Management  1
MKT 415  Marketing Foundations  3
MKT 425  Brand Strategy  2
SCM 423  Supply Chain Operations Management  2

All courses required

Total Credits  30

Further information about the Master of Science in Management program may be obtained by contacting the Graduate Programs Office of the College of Business and Economics, Lehigh University, 621 Taylor Street, Bethlehem PA 18015; email: business@lehigh.edu; or Alyssa Clapp, Director, M.S. in Management Program, phone: (610) 758-3418 email: a.clapp@lehigh.edu. www.lehigh.edu/m2

DOCTOR OF PHILOSOPHY

Program Requirements

The Ph.D. program requires a minimum of 48 semester hours of study (including dissertation) beyond the master's degree or 72 hours of study beyond the bachelor's degree. Each student is required to choose one major field and one minor field of specialized study. Students must take core courses in microeconomics, macroeconomics, econometrics, and mathematical economics. Students must also take written, qualifying examinations in microeconomic theory and econometrics as well as an examination in their major field of study. As a condition for advancement to candidacy, a student must write an original third-year paper (the pre-dissertation research project) suitable for submission to a scholarly journal. The major fields of specialization normally available include, but are not necessarily limited to, health economics, labor economics, applied econometrics, and industrial organization.

Under the guidance of a dissertation chairperson and committee, the candidate undertakes research culminating in a dissertation. The Ph.D. is awarded upon the successful completion of the doctoral dissertation and its oral defense.

Further information about the Ph.D. in Business and Economics Program may be obtained by contacting the Graduate Programs Office of the College of Business and Economics or the Director of the Ph.D. in Business and Economics Program, Lehigh University, College of Business and Economics, 621 Taylor Street, Bethlehem PA 18015.

Email: business@lehigh.edu
http://cbe.lehigh.edu/phd

CERTIFICATE PROGRAMS

Certificate in Corporate Entrepreneurship

Businesses often nurture the entrepreneurial spirit by forming new venture groups within their organizations. The members of these groups require a special blend of education to develop the skills of discovery, innovation and leadership that starting a new enterprise requires. This certificate program prepares students to successfully evaluate business opportunities within a corporate environment.

Requirements

The certificate requires 12 credit hours of coursework with six credit hours of directed electives plus an additional six credits.

Directed Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBEN 403</td>
<td>Anatomy of Entrepreneurship: Startups and Established Companies</td>
<td>1</td>
</tr>
<tr>
<td>GBEN 404</td>
<td>Market Opportunity: Targeting Strategies and Selling Tactics</td>
<td>1</td>
</tr>
<tr>
<td>GBEN 406</td>
<td>Performing a Business Enterprise Audit: Developing an Industry Perspective</td>
<td>1</td>
</tr>
<tr>
<td>GBEN 408</td>
<td>The New Venture Organization: Management, Design, and Governance</td>
<td>1</td>
</tr>
<tr>
<td>GBEN 409</td>
<td>Financial Forecasting: Developing Pro Forma Financial Statements</td>
<td>1</td>
</tr>
<tr>
<td>GBEN 410</td>
<td>Financing StartUps: Seeking Outside Venture Capital</td>
<td>1</td>
</tr>
</tbody>
</table>

Elective Courses

Select 6 credit hours from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBEN 401</td>
<td>The Business Plan I: Strategic Considerations (2)</td>
</tr>
<tr>
<td>GBEN 402</td>
<td>The Business Plan II: Operating Strategies and Implementation (2)</td>
</tr>
<tr>
<td>GBEN 405</td>
<td>Intellectual Property: Management and Valuation (1)</td>
</tr>
<tr>
<td>GBEN 407</td>
<td>Processes and Infrastructure: Creating Production and Delivery (1)</td>
</tr>
<tr>
<td>GBEN 411</td>
<td>Establishing Credit Facilities: Asset-Based and Cash Flow Financing (1)</td>
</tr>
<tr>
<td>GBEN 412</td>
<td>Developing Exit Strategies: Concepts and Approaches (1)</td>
</tr>
<tr>
<td>GBEN 413</td>
<td>Integrative Experience/New Venture Internship (1-4)</td>
</tr>
</tbody>
</table>

Total Credits  12

Admission Requirements

Students admitted to the certificate program in entrepreneurship will enter as non-degree students. Applicants are required to have a 3.0 undergraduate GPA and to have earned a 4 year baccalaureate degree from an accredited college or university. Two years of full time professional work experience is also required.

Further information about certificate programs may be obtained by contacting the Graduate Programs Office of the College of Business and Economics, Lehigh University, College of Business and Economics, 621 Taylor Street, Bethlehem PA 18015.

Phone: (610) 758-3418 email: business@lehigh.edu http://cbe.lehigh.edu/mba/certificates

CERTIFICATE IN SUPPLY CHAIN MANAGEMENT

Increasingly sophisticated information technology applications and the shift toward global economic activity have shaped a competitive environment that rewards creating value for customers while reducing cost and cycle time. Through in depth study of the organizations’ value chain -logistics, operations, marketing, sales and service- the certificate in supply chain management demonstrates how these activities are linked both internally and externally.

Required Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>GBUS 432</td>
<td>Demand and Supply Chain Planning</td>
</tr>
<tr>
<td>GBUS 450</td>
<td>Strategic Supply Management</td>
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<tr>
<td>GBUS 453</td>
<td>Transportation and Logistics Management</td>
</tr>
<tr>
<td>GBUS 456</td>
<td>Applied Supply Chain Models</td>
</tr>
</tbody>
</table>

Total Credits  12

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email: business@lehigh.edu

Professors: Paul Brockman, PHD (Louisiana State University); Shin-Yi Chou, PHD (Duke University); James A. Dearden, PHD (The Pennsylvania State University); Mary E. Delly, PHD (Harvard University); Frank R. Gunter, PHD (Johns Hopkins University); Kathleen W. Hanley, PHD (University of Florida); Richard J. Kish, PHD (University of Florida); Judith A. McDonald, PHD (Princeton University); Matthew A. Melone, JD (University of Pennsylvania); Vincent G. Munley, PHD (State University of NY, Binghamton University); George A. Nation, III, JD (Villanova University); Nandkumar Nayar, PHD (University of Iowa); Georgette C. Phillips, JD (Harvard Law School); Corinne A. Post, PHD (Rutgers University Newark); Michael D. Santoro, PHD (Rutgers University); Susan A. Sherer, PHD (University of Pennsylvania); K. Sivakumar, PHD (Syracuse University); Larry W. Taylor, PHD (University of North Carolina Chapel Hill); Robert J. Thornton, PHD (University of Illinois Upper Chicago); Robert J. Trent, PHD (Michigan State University); Andrew J. Ward, PHD (University of Pennsylvania); Todd A. Watkins, PHD (Harvard University); Yuliang Yao, PHD (University of Maryland College Park)

Associate Professors: Liuba Y. Belkin, PHD (Rutgers University); Ravindra Chitluri, PHD (University Texas, Austin); Beibei Dong, PHD (University of Missouri, Columbia); Andreae Kiss, PHD (Georgia State University); Ernest Kong-Wah Lai, PHD (University of Pittsburgh); Alberto Lamadrid, PHD (Cornell University); Douglas M. Mahony, PHD (Rutgers University); James M. Maskulka, DBA (Kent State University); Chad Meyerhoefer, PHD (Cornell University); Oleksandra Nikolos-Rzhevsksky, PHD (University of Houston University Park); Steven McKay Price, PHD (Florida State University); Marina Puzakova, PHD (Drexel University); Ahmed S. Rahman, PHD (University of California, San Francisco); Catherine M. Ridings, PHD (Drexel University); Naomi B. Rothman, PHD (New York University); Jesus M. Salas, PHD (University of Oklahoma); Charles E. Stevens, PHD (Ohio State University); Stephen F. Thode, 0, DBA (Indiana University Bloomington); Muizhe Yang, PHD (University of California Berkeley); Ke Yang, PHD (University of Iowa); Zach G. Zacharia, PHD (University of Tennessee Knoxville)

Assistant Professors: Keith A. Bohte, PHD (University of Utah); Ludovica Cesareo, PHD (Sapienza University di Roma); Weijia Dai, PHD (University of Maryland); Yoonju Han, MS (Korea University); Ozius A. Moore, Jr., PHD (Cornell University); Irina Panovska, PHD (Washington University); Seth Richards-Shubik, PHD (University of Pennsylvania); Ke Shen, MS (Northern Illinois U); Haoyan Sun, MBA (University of Washington); Rebecca Jen-Hui Wang, PHD (Northwestern University); Gianqian Yu, MS (University of British Columbia); Dawei Zhang, PHD (University of Calgary); Haibei Zhao, PHD (Georgia State University)

Lecturer: Chitra S. Nayar, MBA (University of Iowa)

Professors Of Practice: Marija Baltrusaitiene, MA (University of Iowa); James Brennan, PHD (University of Wyoming); Luis F Brunstein, PHD (University of California, Riverside); Phillip S Coles, MS (Cornell University); Joshua Walter Ehrig, MA (Lehigh University); Dale F. Falcinelli, MS (Lehigh University); Loren Kenneth Keim, Jr., MBA (Lehigh University); Robert Kuchta, MS (New Jersey Institute of Technology); Deirdre Trabert Malacrea, MBA (Harvard Business School); Olena Nikolosko-Rzhevska, PHD (University of Miami); Steven L. Savino, MBA (Wake Forest University); Vijay Singh, PHD (Ohio State University); Samuel C. Weaver, Ph.D., PHD (Lehigh University)

Emeriti: J. Richard Aronson, PHD (Clark University); Nicholas W. Balabkins, PHD (Rutgers University); Richard W Barsness, PHD (University of Minnesota); Alden S. Bean, PHD (Northwestern University); Carl R. Beidleman, PHD (University of Pennsylvania); John W. Bonge, PHD (Northwestern University); Stephen G. Buell, PHD (Lehigh University); James Edward Hansz, PHD (University of Cincinnati); Thomas J. Hyclak, PHD (University of Notre Dame); Jon T. Innes, PHD (University of Oregon); Arthur E. King, PHD (Ohio State University); Michael G. Kolchin, DBA (Indiana State University); John R. Mc Namara, PHD (Rensselaer Polytechnic Institute); Anthony Patrick O’Brien, PHD (University of California Berkeley); Peter P. Poole, PHD (The Pennsylvania State University); Theodore W. Schlief, PHD (Northwestern University); Bruce M. Smackey, PHD (Rensselaer Polytechnic Institute); John E. Stevens, PHD (University of Cincinnati)

Business Information Systems Courses
BIS 423 Management Information Systems 2 Credits
This course examines the role of information systems (IS) and information technology (IT) in the organization. The focus of the course is the organizational uses of IS and IT to compete effectively. Both technical and managerial aspects of information systems are explored. The course includes technical infrastructure, management decision-making, trends and innovations in IS, and business process issues critical to the understanding of operational and strategic information systems.

BIS 448 Predictive Analytics in Business 3 Credits
The course covers theories and practices in predictive analytics in business. Students will have hands-on experience on analyzing business data for business intelligence and improved business decision making. Includes: key theories, concepts, and models of predictive analytics; and data mining tools to formulate and solve business problems. The course uses data analytics software and real data. Topics include prediction, forecasting, classification, clustering, data-visualization and data reduction techniques. Credits will not be given for both BIS 348 and BIS 448.

BIS 452 Advanced Topics in Business Analytics 3 Credits
This course covers advanced analytic methods for understanding and solving business problems. The emphasis is on understanding and applying a wide range of modern techniques to specific decision-making situations. Using the programming language R, the course covers advanced topics such as machine learning, text mining, and social network analysis. Upon completion, students will have valuable practical analytical skills to handle large datasets and make business decisions. Credits will not be given for both BIS 352 and BIS 452.

Requisites: BUEC or ECO 045

Economics Courses
ECO 401 Basic Statistics for Business and Economics 3 Credits
Descriptive statistics, probability and probability distributions, estimation, hypothesis testing, correlation and regression, chi-square analysis, and analysis of variance. Computer applications.

ECO 402 Managerial Economics 3 Credits

Requisites: MATH 021 and (MATH 022 or MATH 096) and ECO 401

ECO 403 Econometric Software 3 Credits
The fundamentals of data management and analysis using statistical software, SAS. Data management and programming skills using the SAS system will be developed. An introduction to R and basic programming in R will be included as well. Working with big data will provide hands-on, practical experience. Upon completion of this course students will be able to manage data to boost their research and analysis skills.
ECO 404 Applied Microeconometrics 3 Credits
The purpose of this course is to expose students to econometric techniques frequently used in applied microeconomic research. The course features critical reading of empirical research papers and the implementation of econometric methods on actual data sets.

ECO 409 Money, Banking and Macroeconomic Analysis 2 Credits
The role of financial intermediation in the U.S. economy, the process of money creation, impacts of fiscal and/or monetary policy on the goals of macroeconomic policy, inflation and unemployment.

ECO 412 Mathematical Economics 3 Credits
Applications of various mathematical techniques in the formation and development of economic concepts and theories. Consent of instructor required.

ECO 413 Advanced Microeconomics Analysis 3 Credits
A survey of methods of decision-making at the microeconomic level; price theory and econometric applications.
Prerequisites: ECO 402

ECO 414 Advanced Topics in Microeconomics 3 Credits
Resource allocation and price determination. Theories of choice of consumers, firms, and resource owners under various market forms.
Prerequisites: ECO 413

ECO 415 Econometrics I 3 Credits

ECO 416 Econometrics II 3 Credits
Mathematical and statistical specification of economic models. Statistical estimation and tests of parameters in single and multiple equation models. Prediction and tests of structural change.
Prerequisites: ECO 415

ECO 417 Advanced Macroeconomic Analysis 3 Credits
Macroeconomic theory and policy. Emphasis on theoretical models and policy implications.

ECO 418 Advanced Topics in Macroeconomics 3 Credits
Prerequisites: ECO 417

ECO 423 Real Options 3 Credits
This is an introductory graduate level course in financial economics. It is intended for students with strong technical backgrounds who are comfortable with mathematical arguments. The course is divided into three major parts: deterministic finance, single-period uncertainty finance, and options theory and its applications.
Prerequisites: GBUS 420

ECO 425 Cost-Benefit Analysis 3 Credits
Theory and methods of cost-benefit analysis; efficiency and equity as criteria in program evaluation; proper measurement of market and non-market costs and benefits; consideration of risk, uncertainty, appropriate discounting techniques, and distributional consequences; applications to the evaluation of health care policies and therapies.
Prerequisites: ECO 402 and ECO 415

ECO 427 Statistical Analysis for Management 2 Credits
Descriptive statistical measures, probability and probability distributions, statistical inference (estimation and hypothesis testing), correlation and regression. EXCEL will be used for statistical computing.

ECO 428 Electricity Economics 3 Credits
The course will focus on the intersection between economics and electricity systems, and the market structures available in the electric energy industry. The course is intended to provide a background on basic economic theory applied to power systems, to understand operations objectives, pricing and incentives and non perfect competition situations that arise in the network. Different dispatch optimization problems used in the restructures electricity market will be discussed, approaches to solve these problems, and the existence of non-convex markets.
Prerequisites: ECO 001 and (ECO 146 or MATH 023)

ECO 429 Monetary Theory 3 Credits
The role of money in the economy from theoretical and empirical perspectives. The influence of money and prices, interest rates, output, and employment.

ECO 430 Public Finance 3 Credits
The economics of public spending and taxation; principles of government debt management; theories of budgeting and cost-benefit analysis and public choice.

ECO 440 Labor Economics I 3 Credits
The economics of labor markets and various labor-market institutions with emphasis on current theoretical and empirical research. Topics include labor supply and demand, human capital, the structure of labor markets, labor market regulation, information and job search, labor mobility, unionism, and labor market discrimination.
Prerequisites: ECO 402

ECO 441 Labor Economics II 3 Credits
An examination of empirical research in labor economics, focusing on topics such as human resource management and internal labor market outcomes, wage and income inequality and poverty, unemployment, and other issues current in the literature.
Prerequisites: ECO 402 and ECO 415

ECO 447 Economic Analysis of Market Competition 3 Credits
Mathematical models based on game theory and industrial organization. Cases are used to analyze the strategic interaction of firms and governments as competitors and partners.
Prerequisites: ECO 402

ECO 448 Business Economics 3 Credits
Applications of economic analysis to business decision-making; technology in economic systems; resource allocation and pricing strategies in various market structures; decisions under risk and uncertainty; and government regulation and support of business and innovation.

ECO 454 Economics of Environmental Management 3 Credits
Economic theory of natural resources. Optimal policies for the development of renewable and nonrenewable resources and environmental quality.
Prerequisites: ECO 402

ECO 455 Health Economics I 3 Credits
Economic theory and empirical analysis of health production, the demand for health services, and health insurance. Implications for the current institutional structure of health care and health delivery systems will also be discussed. Additional topics and extensions will be selected based on developments in the literature.
Prerequisites: ECO 402 and ECO 415

ECO 456 Industrial Organization 3 Credits
The goal of the course is to review theoretical and empirical attempts by economists to understand market structures lying between the extremes of perfect competition and monopoly. The course will focus first on describing the current U.S. industrial structure and reviewing models of imperfect competition. The course then shifts to a closer study of individual firm behavior. The final segment of the course is an overview of two significant relationships between government and industry caused by the existence of imperfect.
Prerequisites: ECO 415 and ECO 447
### ECO 457 Bio-Pharmaceutical Economics 3 Credits
Characteristics of the market for pharmaceuticals; barriers to entry, competition and innovation; pricing and regulation; physician prescribing behavior; commercialization and financing of biotech startups; international comparisons of public policy.
**Prerequisites:** ECO 401 and ECO 402

### ECO 460 Time Series Analysis 3 Credits
Classical decomposition of time series, trend analysis, exponential smoothing, spectral analysis and Box-Jenkins autoregressive and moving average methods.

### ECO 461 Forecasting 3 Credits
Methods of economic and business forecasting.

### ECO 463 Topics in Game Theory 3 Credits
A mathematical analysis of how people interact in strategic situations. Topics include normal-form and extensive-form representations of games, various types of equilibrium requirements, the existence and characterization of equilibria, and mechanism design. The analysis is applied to micro-economic problems including industrial organization, inter-national trade, and finance. Must have completed two semesters of calculus.
**Prerequisites:** ECO 412 and ECO 413

### ECO 464 Applied Econometrics I 3 Credits
This course focuses on the identification of causal relationships using cross-sectional and panel data. The objectives are to 1) familiarize students with identification assumptions for causal inference; and 2) enable students to select appropriate econometric tools for empirical economic problems and policy evaluation. Topics include robust inference and bootstrap; instrumental variables and generalized method of moments (GMM); quantile and nonparametric regression methods; treatment effect analysis, and models for discrete choices, panel data, and social interactions.
**Prerequisites:** ECO 416

### ECO 465 Applied Econometrics II 3 Credits
Econometric analysis of skewed and truncated distributions, discrete outcomes, and missing or incomplete data. The first part of this course will involve the functional specification and testing of appropriate estimators in these situations, while the second part of the course will focus on conducting causal inference using nonlinear models in the presence of unobserved heterogeneity. Emphasis will be given to common applications in health and labor economics.
**Prerequisites:** ECO 416

### ECO 466 Health Economics II 3 Credits
Selected topics in the literature on health economics with an emphasis on the application and evaluation of econometric techniques and identification strategies. Both demand and supply side issues will be addressed. Examples of the former include the demand for health, health insurance and health care services, while examples of the latter include the regulation of supplier behavior and industrial organization issues.
**Prerequisites:** ECO 402 and ECO 416

### ECO 472 International Trade Theory 3 Credits
Theories of comparative advantage, factor price equalization, trade and welfare, tariffs, trade and factor movements.
**Prerequisites:** ECO 413

### ECO 473 International Monetary Economics 3 Credits
Theory of the balance of payments, the microeconomics of international finance, various approaches to balance-of-payments adjustments, theories of foreign exchange-rate determination, and macroeconomic policy under fixed and flexible exchange rates.
**Prerequisites:** ECO 417

### ECO 490 Master's Thesis 0-6 Credits
Extended study of an approved topic not covered in scheduled courses.
**Repeat Status:** Course may be repeated.

### ECO 492 Special Topics in Economics 1-3 Credits
Extended study of an approved topic not covered in scheduled courses.
**Repeat Status:** Course may be repeated.

### ECO 493 Doctoral Pre-Dissertation Research Project - Independent Study 1-9 Credits
Independent study on a topic that is being pursued to fulfill the third year paper requirement, and has been approved by the student's interim advisor.

### ECO 499 Dissertation 1-15 Credits
Repeat Status: Course may be repeated.

### Finance Courses
**FIN 418 Principles of Corporate Finance and Investments 3 Credits**
This course provides students with a basic foundational knowledge of finance principles, working knowledge of various aspects of corporate finance, and the principles of investments. Short-term financial decisions will be discussed. Long-term capital investment will be explored starting with the basics of time value of money and capital investment techniques. Topics include the determination of the appropriate investment discount rate, the organization’s cost of capital and hurdle rates, the risk-reward tradeoff, and specific financial instruments.

### Grad Business Entrepreneurship Courses
**GBEN 401 The Business Plan I: Strategic Considerations 2 Credits**
This course is first of a two-part sequence that focuses on the initial steps necessary to design and build a high-impact business plan for the startup company or new enterprise within an existing firm. The development process is integrative, complex, and time-consuming for the entrepreneur. Foundation or strategic-level issues that impact the formation and growth of the new enterprise are addressed. The goal in this first phase is to complete various sections of the business plan that deal with market opportunity, industry trends and developments, company positioning, competitive advantage, and core competencies. This course is project-oriented and makes extensive use of one-on-one instruction between class meetings. Students identify a market opportunity, develop the product/service offering, target potential customers and users, assess market demand, analyze market penetration, and determine the revenue potential of the new venture.

**GBEN 402 The Business Plan II: Operating Strategies and Implementation 2 Credits**
This course is the second of a two-part sequence that focuses on the final steps necessary to complete the business plan. This phase concentrates on designing the appropriate operational framework and business processes, including technology and infrastructure, which are required to successfully launch the new enterprise. The business plan must also demonstrate that the venture will have strong leadership and a capable management team to deal with uncertainty and drive results. Finally, the business plan must incorporate detailed financial forecasts and financing methods, and should address equity valuation and investor exit strategies. Like its predecessor, this course is project-oriented and makes extensive use of one-on-one instruction between class meetings. Additional emphasis is placed on developing an effective format and packaging of the written document.
**Prerequisites:** GBEN 401

**GBEN 403 Anatomy of Entrepreneurship: Startups and Established Companies 1 Credit**
This interactive seminar focuses on understanding the true meaning of entrepreneurship. The new venture opportunity is profiled from the perspective of the individual entrepreneur who is starting a business and embarking on a new career path involving high risk and reward. Different entrepreneurial management styles are analyzed and highlighted. Emphasis is also placed on managing innovation and creativity in a corporate environment. Successful implementation of entrepreneurial activities for the large company makes special demands on management to promote discovery and create internal stakeholders. Both startups and established companies are placed under the microscope through guest speakers, panel discussion, selected readings, and case analysis.
GBEN 404 Market Opportunity: Targeting Strategies and Selling Tactics 1 Credit

The focal point of any business plan is identifying and understanding the target customer that will be served. The product/service offering must have strong buyer appeal and capture immediate attention in the marketplace. The need to rapidly penetrate a market demands that a marketing mix be designed, built, and implemented in a manner that leads to differentiation and superior positioning. Maximizing marketing firepower with severely limited financial and organizational resources is a major challenge that confronts today's entrepreneurs. Market segmentation strategies, the target marketing process, forming market alliances, and managing the selling process are viewed from the perspective of seed and early stage ventures.

GBEN 405 Intellectual Property: Management and Valuation 1 Credit

New technologies create new markets and new venture possibilities. Their discovery and success rate, along with the ability of an enterprise to leverage these assets in markets, depends on how the firm views and manages its investment in intellectual property. Obtaining the necessary legal protection of intellectual property can also serve as an effective barrier to entry and may be a source of competitive advantage. This seminar focuses on the strategic management of intellectual property as a commercial enterprise, covers methods of valuation, and examines various accounting and legal issues that must be considered in strategic-level decision making.

GBEN 406 Performing a Business Enterprise Audit: Developing an Industry Perspective 1 Credit

New ventures must position themselves for long-term growth and market development. Entrepreneurs create enterprises, define their organizations, and build business models based on changes in technology, government regulation, demographics, and shifts in other exogenous variables. A strategy must be crafted that is sustainable over the long run. Success or failure is often predicated on market cycles, market saturation, supply/demand imbalances and other forces that are not controllable. This seminar places emphasis on assessing the market potential and valuation of startups from an industry or macro-perspective, particularly from the view of an outside investor. It also focuses on how to gather and make effective use of competitive intelligence.

GBEN 407 Processes and Infrastructure: Creating Production and Delivery 1 Credit

This course provides an overview of the internal capabilities and the process and technology platform required to fully operationalize the business plan. Critical business activities and functions are dissected, such as establishing needed backend procurement, production, and distribution services that focus on supply chain dynamics and management; determining the scope of frontend call center and e-commerce activities; managing logistics; and utilizing information systems and web-based solutions that effectively link customers, elements of the supply chain, and employees. These topics are explored from the perspective of the startup and emerging company as well as the large corporation engaged in new venture creation.

GBEN 408 The New Venture Organization: Management, Design, and Governance 1 Credit

Managing a new enterprise presents unique and difficult challenges for its leadership. Expanding workloads and the increased complexity of tasks resulting from the rapid and sustained growth of the business create the need for a smooth transition from entrepreneurial-style management to professional management. Timing is critical, and for many startups it is not an easy bridge to cross. This dissects the design and characteristics of small organizations, and the need to correctly align structure with strategy. It also considers how entrepreneurial activities should be seeded, managed, organized, and executed within the context of an established company. Under scrutiny are the heavy demands placed upon entrepreneurs and corporate managers to effectively lead and manage under highly uncertain conditions where change is a constant. Additional emphasis is placed on comprehending the critical role that boards of directors play for startup companies.

GBEN 409 Financial Forecasting: Developing Pro Forma Financial Statements 1 Credit

No business plan would be complete without providing detailed financial projections and identifying the key assumptions that help shape the numbers. The financial translation of business models is expressed through pro forma income statements, balance sheets, and sources and uses of funds. Having this information allows management, investors, and lenders to measure and evaluate future financial performance. This exercise also establishes the capitalization required to launch the venture, support operations, and meet interim goals as the enterprise progresses through the beginning stages of its development. emphasis is placed on the use of forecasting methods and breakeven analysis, working capital and cash flow management, and identification of accounting and financial issues that impact on profit measurement and financial risk.

GBEN 410 Financing Startups: Seeking Outside Venture Capital 1 Credit

This course provides an overview of the venture capital market, examines the nature and role of the venture capitalist, and analyzes whether and how venture capital financing may be the preferred approach in raising outside capital. Venture deals are closely examined in terms of types of equity instrument, methods of valuation, milestones and staged release of funds, special provisions that may include anti-dilution measures and other protective arrangements, and developing term sheets. Emphasis is also given to dissecting the process and criteria used to seek and attract venture capitalists, including angel investors. Various scenarios and tradeoffs are covered in this intensive.

GBEN 411 Establishing Credit Facilities: Asset-Based and Cash Flow Financing 1 Credit

Borrowing from a commercial bank or a credit intermediary can provide outside funding for working capital and equipment purchases in many situations. For seed and early stage firms, attention is often given to asset-based lending programs that make use of first liens on accounts receivable and inventory or fixed assets to provide added legal protection to creditors. For later stage firms, traditional line-of-credit financing may be feasible and desirable from a cash flow standpoint. Various borrowing alternatives, including leasing, are covered in this course along with covenants and restrictions that often apply. Government loan programs, especially those of the Small Business Administration, are also given emphasis.

GBEN 412 Developing Exit Strategies: Concepts and Approaches 1 Credit

Sophisticated equity investors require that an exit or harvest plan be developed and that it be viable and capable of being executed within the foreseeable future. Venture capitalists and angel investors anticipate their future departure and a positive financial outcome at the very point the deal is struck in the present. Various planned and unplanned exit strategies are analyzed in this course which include: an initial public offering, offering the business for sale, merging with another company, franchising, acquisition of shares by some investors, or liquidation of the business. Valuation methods, financial and tax implications, and due diligence are also examined.

GBEN 413 Integrative Experience/New Venture Internship 1-4 Credits

Only students enrolled in the Entrepreneurial concentration may elect one of these hands-on, project-orientated s. Integrative Experience must meet the requirements of formal independent study and involve a new venture situation with a startup or existing company. Students employed in a New Venture Internship may also qualify for credit if the same requirements are satisfied.
GBUS 420 Investments 3 Credits  
Prerequisites: (MBA 402) or (ACCT 151 and FIN 125)  

GBUS 421 Advanced Investments 3 Credits  
Advanced topics relating to specific areas within investment finance such as valuation/security analysis; portfolio/risk management; fixed investment securities; mutual funds; hedge funds; microstructure; and trading. Consent of designated finance faculty representative required.  
Repeat Status: Course may be repeated.  
Prerequisites: GBUS 420  

GBUS 422 Derivatives and Risk Management 3 Credits  
The theory and application of a variety of derivative instruments (options, futures contracts, etc.) used in corporation finance and the financial services industry. The focus is on the risk management application vs. a rigorous development of option pricing theory and similar topics. Consent of designated finance faculty representative required.  
Prerequisites: GBUS 420  

GBUS 424 Advanced Topics in Financial Management 3 Credits  
Advanced topics relating to specific areas of corporate finance such as: theoretical and empirical examination of recent developments in financial management, asset valuation and capital budgeting including the role of uncertainty, imprecise forecasts, risk preferences, inflation, market conditions, and the global marketplace, working capital management, leasing, mergers, and financing. The course content may vary between instructors or each time the course is offered. Consent of designated finance representative.  
Repeat Status: Course may be repeated.  
Prerequisites: GBUS 419  

GBUS 425 Real Estate Financing and Investing 3 Credits  
An upper-level course in modern real estate financing techniques from the perspectives of both the borrower and the lender. Subject matter encompasses the following areas: The principles of financing decisions; financing methods and techniques; institutional sources of funds for real estate; and real estate financing decisions. Consent of designated finance faculty representative required.  
Prerequisites: (MBA 402 and GBUS 420)
GBUS 426 Financial Markets and Institutions 3 Credits
Functions and portfolios of financial intermediaries. Sectional demand and supply of funds, nature and role of interest rates, term structure and forecasting, impact of inflation and regulations on financial intermediaries and markets, and current developments in the financial system. Management of assets and liabilities within the U.S. financial institution's legal and economic constraints. Consent of designated finance faculty representative.
Prerequisites: (GBUS 420)

GBUS 431 Quantitative Finance 3 Credits
Relationship of quantitative models to financial theory and applications. Capital budgeting, portfolio selection, security evaluation, cash management, inventory policy and credit analysis. Consent of designated finance faculty.
Prerequisites: MBA 402

GBUS 432 Demand and Supply Chain Planning 3 Credits
Students will learn how businesses work together to build relationships and integrate demand and supply planning activities across the supply chain to deliver superior value to customers. They will also learn about tools and technologies that enable integration as well as the critical drivers and the key metrics that support supply chain performance. Current readings and case studies, simulations and written assignments will be used.

GBUS 437 Federal Taxation and Business Decisions 3 Credits
Impact of federal taxation on the structure and timing of business decisions. Problem-solving methods and research techniques from a managerial perspective.
Prerequisites: ACCT 307

GBUS 440 Human Resource Management 3 Credits
A survey of personnel management activities in organizations. Topics include human resource planning, recruitment, selection, equal employment opportunity, performance appraisal, compensation, career planning, safety and health, and quality of work life issues. Consists of lectures, discussion, and case analysis.

GBUS 442 Seminar in Management Consulting 3 Credits
A study of consulting practices in general and their application to small business. Processes include a field study/counseling service to a local business. Emphasis is on the identification and analysis of multidisciplinary problems and opportunities and the implementation of recommendations. Must have completion of MBA background courses (or equivalent). Consent of instructor required.

GBUS 444 Managerial Communication Skills 3 Credits
Organization, style and strategy of language to inform, direct and persuade. Application of writing, reading, speaking and listening skills to managerial problems. Case studies.

GBUS 445 Labor-Management Administration 3 Credits
A study of the U.S. system of industrial relations, including the evolution and present status of labor law; union organizing efforts; the strategy of negotiations; the substantive provisions of collective bargaining and the administration of collective agreements. Also considered is the role of unions in the implementation of programs for employee self-management and other workplace innovations.

GBUS 446 Commercial Potential Assessment 3 Credits
A study of the process of bringing an invention to market with emphasis on commercial potential. Industrial analysis, competitor intelligence and strategic issues will be emphasized along with the development of market strategy and an overall business plan. Extensive research including data base searches will be included. Instructor permission required.

GBUS 447 Negotiation 3 Credits
The class examines the behavioral foundations of the negotiation process. Topics include: The negotiation process, negotiation planning, power in negotiations, communications in negotiations, tactics, concepts of win-win and win-lose, social styles, individual and team negotiations, ethical considerations, cultural differences, negotiating in sole source (customer) situations, using third parties. The concepts will be exposed through both lectures and simulations.

GBUS 448 Leadership 3 Credits
This course is an examination of leadership at the organization and group/team levels, and aims to develop and build a student's leadership skills and the ability to diagnose leadership needs in different situations. In identifying and building these leadership skills, the course will focus on the decisions leaders need to make, and the appropriate leadership decision-making processes required in various contexts and at different stages of an organization's existence. Cases and developmental exercises including in-depth decision-making exercises are utilized and cover diverse situations and cross-cultural dimensions including specific situations such as a crisis or ethically difficult decisions.

GBUS 450 Strategic Supply Management 3 Credits
A survey course designed to introduce the MBA/MSE student to the vital role played by supply management in achieving overall effectiveness for the firm in today's global economy. The course starts by examining the traditional purchasing process and then moves on to an examination of the evolution of purchasing into supply management and, finally, to the role purchasing plays in improving effectiveness of the entire value chain. Consists of lectures, discussion and case analysis.

GBUS 453 Transportation and Logistics Management 3 Credits
The control of physical distribution and inventories; the flow of information, products and cash through the integrated supply chain.

GBUS 455 E-Business Enterprise Applications 3 Credits
Implications of key information technologies used within and across businesses to conduct e-business, including customer relationship management, enterprise resource planning, online ordering and inventory management, supply chain management, and e-procurement systems, data warehousing, data mining, intra-extranets, and knowledge management.

GBUS 456 Applied Supply Chain Models 3 Credits
This course will present applied and analytic approaches for developing inventory and forecasting models, supplier selection, supply chain quality management, and production planning and supply chain network design.

GBUS 458 Strategic Information Systems 3 Credits
Understanding the various types of computer based information systems and developing an ability to identify and exploit information technologies to gain competitive advantage, at the individual, group and organizational levels.
Prerequisites: MBA 403

GBUS 460 Strategic Marketing Management 3 Credits
The course studies the management of contemporary organizations from the perspective of a marketing manager. While the course content addresses the activities required to maintain a strategic fit between an organization's environment and its particular set of objectives and resources, the central focus is on designing strategic marketing actions for various types of organizations. The course pedagogy emphasizes the application of marketing and other business principles through seminars, simulations, or case discussion.
Prerequisites: MBA 404

GBUS 462 Pharmaceutical Marketing 3 Credits
The course provides an introduction and overview of the various healthcare system components as they relate to the pharmaceutical industry. This course will (1) focus on product decisions of the firm, requiring an occasional shift in focus from that of corporate management to that of operating managers of new product activities or established brands; (2) recognize the importance of marketing research as input to product decisions; (3) take a managerial orientation; (4) recognize the need to tailor product policy approaches to the characteristics of the decision-maker and the firm. The course will be a mixture of lectures, discussions, case analyses, and group exercises. Graduate students only.
Prerequisites: MBA 404
GBUS 464 Business-to-Business Marketing 3 Credits
This course focuses on marketing strategies and tactics in firms whose customers are other institutions, not individuals. Topics covered include organizational buying behavior, managing strategic buyer-seller relationships, sales force deployment, communication strategies, and so on. Specific attention is given to the impact of information technology and globalization in the business to business context.

GBUS 465 Creating Breakthrough Innovations 3 Credits
Most products and services either fail or do average business, but some are phenomenally successful. Such products and services that provide phenomenal financial returns and become market leaders can be called "Breakthrough Products and Services". The main objective of the course is to improve our understanding of the process of creating breakthrough products and services. It is accomplished by in-class discussions of cases, assignments, and the state-of-the-art research work in academia and industry. The course concludes with a term paper that integrates the concepts learned from class discussions, reference books, and research papers and applies them to a real product. Must have graduate student status plus two years of postgraduate work experience.

GBUS 466 Marketing Research and Analysis 3 Credits
This course focuses on procedures for collecting and analyzing relevant information for informed decision making by managers. The process of identifying research questions, developing instruments for collecting information, and interpreting and disseminating research results are discussed. The course is supported by hands-on projects to expose students to the full process of marketing research. The course concludes with a term paper that integrates the concepts learned from class discussions, reference books, and research papers and applies them to a real product. Must have graduate student status plus two years of postgraduate work experience.

GBUS 467 Strategic Brand Management 3 Credits
This course focuses on strategies for building customer relationships through successful brand development, management, and extension. Learning objectives include case studies and discussions to provide students' diagnostic problems and develop viable alternatives.

GBUS 468 Legal Aspects of International Business 3 Credits
Various legal problems of engaging in business abroad, including contracts, technology transfer, property ownership, business organizations and labor, using a case and problem-solving approach.

GBUS 469 Global Marketing Strategies 3 Credits
The course is designed to provide a framework within which global marketing function can be analyzed, understood, and undertaken. The course focuses on issues that are being faced by firms in today's global marketplace, particularly those that are related to strategy formulation and implementation. The learning experience in this course is placed on global business decision-making, through the use of case studies, projects, exercises, and lectures.

GBUS 470 Marketing Communications Strategies 3 Credits
This course focuses on how various elements of communications are integrated to achieve various organizational objectives. In addition to the traditional communication media such as advertising and point of purchase media, emphasis will also be placed on new media and strategies made possible due to the advances in technology. The course will involve discussion of concepts, case analysis and discussion, insights from practitioners, and project groups.

GBUS 471 Strategic Brand Management 3 Credits
This course approaches the study of brand management by illustrating the formulation of strategically sound brand management programs and the evaluation and control of the implementation of key brand initiatives (new products, advertising support, etc.). Focus is on theories and models to develop and manage brand equity. Specific learning modules include customer development, brand strategy development, brand extension development and annual brand planning. Specific attention is focused on case studies and team projects in building, measuring and managing brand equity.

GBUS 472 Strategies for Services Marketing 3 Credits
The course focuses on the challenges of marketing and managing services (whether in a manufacturing or service business) and the development of strategies for addressing these challenges. The need for cross-functional integration to provide effective service is stressed. Illustrative topics include service quality gap analysis, relationship between superior service and profitability, service encounter analysis, customer lifetime value analysis, services guarantees, and service demand and capacity management.

GBUS 473 International Finance 3 Credits
Consideration of problems arising from the risks associated with international investing and multinational corporation finance (currency, political, etc.). Focus is on (a) investing in international market given the institutional constraints and differences between domestic markets, and (b) managerial issues relating to corporations, investors, and financial institutions. Consent of designated finance faculty representative.

Prerequisites: GBUS 419

GBUS 474 Advanced International Business 3 Credits
Various legal problems of engaging in business abroad, including contracts, technology transfer, property ownership, business organizations and labor, using a case and problem-solving approach.

GBUS 475 Global Marketing Strategies 3 Credits
The course is designed to provide a framework within which global marketing function can be analyzed, understood, and undertaken. The course focuses on issues that are being faced by firms in today's global marketplace, particularly those that are related to strategy formulation and implementation. The learning experience in this course is placed on global business decision-making, through the use of case studies, projects, exercises, and lectures.

GBUS 476 Qualitative Research Methodology 3 Credits
Study of techniques that describe, decode and translate social phenomena. Explores how interpretive researchers plan and conduct studies and present findings. Studies investigators' roles, data sources, observation methods, data analysis methods and trustworthiness of findings. A field research project is required.

GBUS 477 Sales Management 3 Credits
This course takes an integrated approach to the study of sales management, including formulation of strategically sound programs and the implementation of selling initiatives and the evaluation and control of the organization's sales activities. Topics include the role of the sales manager in the divergent demands of multiple constituencies; the development of effective sales organizations; lead generation and quota setting; territory management; and motivation and reward systems. Learning methods include case studies where students diagnose problems and develop viable alternatives.

GBUS 478 Marketing Research and Analysis 3 Credits
This course focuses on procedures for collecting and analyzing relevant information for informed decision making by managers. The process of identifying research questions, developing instruments for collecting information, appropriate interpretation of information, and appropriateness of research methods are some of the topics discussed in this course. The course focuses on the process of doing marketing research as well as the techniques for analyzing information. Discussion of concepts and cases, developing data collection instruments, and doing actual marketing research projects will form the key elements of this course.

Prerequisites: (ECO 401 or BUEC 301)

GBUS 479 Field Projects 1-4 Credits
The field projects course will provide MBA students with an opportunity to apply MBA concepts with an employer, corporate partner or other suitable organization. Students will work with a supervising professor and a corporate representative on a project designed by the student. Students must prepare a written proposal for the project including the expected outcomes and an estimate of the hours required for completion. Students will present their proposal to a faculty member of their choice for approval. The academic rigor and time required to complete the project will determine the number of credits earned.

GBUS 480 Professional Work Experience 0-6 Credits
Repeat Status: Course may be repeated.

GBUS 481 (MSE 481) Technology, Operations and Competitive Strategy 3 Credits
Develops an understanding and appreciation of the interrelationships among technology, operations and the competitive strategy of the firm. Industry analysis and competitiveness; competitive strategy formulation and implementation; value chain analysis; operations strategy and technology strategy; operations' contributions to competitive advantages in cost, quality and variety and new product introduction.

GBUS 482 Marketing Strategy 3 Credits
Study of the formulation of strategies for analyzing, understanding and controlling marketing operations, with the emphasis on implementation. Covers: marketing strategy formulation and implementation; the role of marketing in the overall strategy of the firm. Industry analysis and competitiveness; competitive strategy formulation and implementation; value chain analysis; operations strategy and technology strategy; operations' contributions to competitive advantages in cost, quality and variety and new product introduction.

GBUS 483 Qualitative Research Methodology 3 Credits
Study of techniques that describe, decode and translate social phenomena. Explores how interpretive researchers plan and conduct studies and present findings. Studies investigators' roles, data sources, observation methods, data analysis methods and trustworthiness of findings. A field research project is required.

GBUS 484 Advanced International Business 3 Credits
Various legal problems of engaging in business abroad, including contracts, technology transfer, property ownership, business organizations and labor, using a case and problem-solving approach.

GBUS 485 Global Marketing Strategies 3 Credits
The course is designed to provide a framework within which global marketing function can be analyzed, understood, and undertaken. The course focuses on issues that are being faced by firms in today's global marketplace, particularly those that are related to strategy formulation and implementation. The learning experience in this course is placed on global business decision-making, through the use of case studies, projects, exercises, and lectures.

GBUS 486 Market Research 3 Credits
This course focuses on procedures for collecting and analyzing relevant information for informed decision making by managers. The process of identifying research questions, developing instruments for collecting information, appropriate interpretation of information, and appropriateness of research methods are some of the topics discussed in this course. The course focuses on the process of doing marketing research as well as the techniques for analyzing information. Discussion of concepts and cases, developing data collection instruments, and doing actual marketing research projects will form the key elements of this course.

Prerequisites: (ECO 401 or BUEC 301)

GBUS 487 Sales Force Management 3 Credits
This course focuses on procedures for collecting and analyzing relevant information for informed decision making by managers. The process of identifying research questions, developing instruments for collecting information, appropriate interpretation of information, and appropriateness of research methods are some of the topics discussed in this course. The course focuses on the process of doing marketing research as well as the techniques for analyzing information. Discussion of concepts and cases, developing data collection instruments, and doing actual marketing research projects will form the key elements of this course.

Prerequisites: (ECO 401 or BUEC 301)

GBUS 488 Marketing Communications Strategies 3 Credits
This course focuses on how various elements of communications are integrated to achieve various organizational objectives. In addition to the traditional communication media such as advertising and point of purchase media, emphasis will also be placed on new media and strategies made possible due to the advances in technology. The course will involve discussion of concepts, case analysis and discussion, insights from practitioners, and project groups.

GBUS 489 Field Projects 1-4 Credits
The field projects course will provide MBA students with an opportunity to apply MBA concepts with an employer, corporate partner or other suitable organization. Students will work with a supervising professor and a corporate representative on a project designed by the student. Students must prepare a written proposal for the project including the expected outcomes and an estimate of the hours required for completion. Students will present their proposal to a faculty member of their choice for approval. The academic rigor and time required to complete the project will determine the number of credits earned.

GBUS 490 Thesis 0-6 Credits
Repeat Status: Course may be repeated.

GBUS 491 Special Topics 1-4 Credits
Repeat Status: Course may be repeated.

GBUS 494 Field Projects 1-4 Credits
The field projects course will provide MBA students with an opportunity to apply MBA concepts with an employer, corporate partner or other suitable organization. Students will work with a supervising professor and a corporate representative on a project designed by the student. Students must prepare a written proposal for the project including the expected outcomes and an estimate of the hours required for completion. Students will present their proposal to a faculty member of their choice for approval. The academic rigor and time required to complete the project will determine the number of credits earned.

GBUS 495 Internship 1-12 Credits
Repeat Status: Course may be repeated.

GBUS 496 Professional Work Experience 0-6 Credits
Repeat Status: Course may be repeated.

GBUS 497 Professional Work Experience 0-6 Credits
Repeat Status: Course may be repeated.

GBUS 498 Professional Work Experience 0-6 Credits
Repeat Status: Course may be repeated.

GBUS 499 Dissertation 1-12 Credits
Repeat Status: Course may be repeated.

Graduate MBA Core Courses
MBA 401 Introduction to the Organization and its Environment 2 Credits
An MBA core course designed to provide a thorough understanding of business organizations by examining strategies middle and senior managers use to create and sustain organizational competitive advantage. The course examines the organization from an overall perspective within the context of the firm's internal and external environment. The second aspect of this course deals with the ability to communicate effectively in today's business and professional environment. Students will examine and practice the written and verbal communications strategies and skills that are essential to their success in business.
MBA 402 Managing Financial and Physical Resources 4 Credits
An MBA core course designed to integrate financial and managerial concepts into operations decisions. Disciplines of accounting, finance and economics are combined to provide substantive foundations for discussing and analyzing data. Implications of analysis are applied to facilitate decision-making in other areas such as marketing, operations (manufacturing, logistics and engineering), human resources, information technology and general management. The major learning objectives will be applied through a series of “living” cases that are centered on analyzing historical financial performance, preparing a business plan, and valuing a business.
Prerequisites: (MBA 401 and GBUS 401 or BUAC )
Can be taken Concurrently: MBA 401

MBA 403 Managing Information 4 Credits
An MBA core course dealing with concepts and methods involved in the collection, organization and dissemination of information that helps managers make operational and strategic decisions. The course also deals with attributes of information and examines enterprise-wide impacts of local decisions. Revenue, cost, time and quality-based information are accorded equal emphasis, while students are exposed to alternative evaluation methods for decisions related to different parts of the value chain. Topics include: activity-based costing; activity-based management; transaction analysis; operational and strategic decisions such as outsourcing, design partnerships, etc; investment analysis for short lifecycle investments; evaluation of uncertainty, risk and ambiguity; metrics development; compensation policies; segment evaluation methods; target costing and functional analysis; quality function deployment; total cost of ownership; and transfer pricing. In addition, the course deals with: information technology enablers which allow firms to improve value delivered to customers; and evaluation and management of emerging forms of Cooperation, such as joint ventures and project based strategic alliances.
Prerequisites: (ECO 401 or BUEC ) and (GBUS 401 or BUAC and MBA 401)
Can be taken Concurrently: MBA 401

MBA 404 Managing Products and Services 4 Credits
An MBA core course focusing on the management of products and services within a firm’s value chain. The course addresses exceeding customer expectations, establishing total quality as the core foundation, developing a strong customer focus, creating value through supply chain management, developing new products for competitive advantage, matching aggregate supply with customer demand, and designing market channels and influencing customers.
Prerequisites: MBA 401
Can be taken Concurrently: MBA 401

MBA 405 Managing People 4 Credits
An MBA core course that examines how effective organizations are created, maintained, and improved. The course will focus on how good people are attracted to an organization and how to make them productive. Topics include: organizational design, job design, staffing, training and development, performance, teams, influence, diversity, change, ethical decision-making and current people issues facing today’s organizations.
Prerequisites: MBA 401
Can be taken Concurrently: MBA 401

MBA 406 Integrative Experience 3 Credits
An MBA course where students apply the body of knowledge acquired in MBA 401 through 405 through a simulation, case presentations and the cross core project. This course places an emphasis on strategic management and takes the point of view of the general manager to view the organization from an overall perspective in the context of the firm’s internal and external environment. In doing so, students examine historical perspectives, contemporary theories, and practical applications all in the spirit of helping them develop a broad understanding of strategic management issues and solutions. By combining high-level class discussions, case analyses, a computer simulation competition and the crosscore project this course exposes students to rigorous theoretical analysis while providing hands-on, simulated real world business experiences.
Prerequisites: (MBA 401 and MBA 402 and MBA 403 and MBA 404 and MBA 405)
Can be taken Concurrently: MBA 403

MBA 451 Accounting 1-MBA 1.5 Credit
This course trains students in corporate decision making using financial information that is prepared under mandated accounting principles for external financial statement users. The course also covers accounting practices which provide information for internal users. It studies the use and interpretation of financial statements with a focus on the effect of economic transactions on financial statements and key ratios. Topics include: introduction to financial accounting concepts and principles, the accounting cycle, cost accounting information processing and impact on decision making.

MBA 452 Economics and Markets 1-MBA 1.5 Credit
Fundamental principles and tools of microeconomics with a focus on managerial decision-making. Topics include consumer behavior, input selection, cost analysis, production and pricing strategies in various market structures, decision making under uncertainty, international trade, information asymmetry and organizational design, and game theory as it applies to business strategy.

MBA 453 Finance 1-MBA 1.5 Credit
This course explores the application of fundamental finance concepts in modern business. Topics covered include Risk and return, Capital budgeting techniques and analysis, financial statement analysis and forecasting, valuation basics, corporate cost of capital, and other corporate finance issues such as capital structure, dividend policy, and working capital policy.

MBA 454 Management - OB/HR 1-MBA 1.5 Credit
This course focuses on understanding human behavior at work and how it is influenced by individual differences, group dynamics, and by the organizational context in which people are employed. Key organizational behavior theories will be applied to fundamental human resource management issues with an emphasis on aligning an organization’s talent with its strategy to maximize performance. Topics will include: staffing and selection, training and development, motivation, performance management, leadership, and optimizing effectiveness by understanding behavioral factors of individuals and groups.

MBA 455 Marketing 1-MBA 1.5 Credit
This course provides a contemporary perspective to introduce the student to the fundamentals of strategic marketing. The course explores the functional marketing operations of organizations and tracks the marketing manager’s decision processes including segmentation and target market development, product/brand positioning and the development of the value proposition, and the integration of the marketing mix elements into a cohesive strategy. Specific learning modules are concerned with the development, evaluation, and implementation of strategic marketing plans.

MBA 456 Strategy 1-MBA 1.5 Credit
Within the context of a multi-stakeholder approach to organizations, strategic management covers overall organizational issues in intent, analysis, strategy formulation, execution, and control within a global environment. The objectives of this course are to provide the student with a better understanding of business organizations and to clarify the way senior managers create and sustain organizational competitive advantage.
MBA 461 Financial Claimants 1-MBA 1.5 Credit
This course will focus on various financial claimants in the modern corporation. The focus will be on the theory behind and practice related to information needs and use by stockholders, bondholders, and other intermediate financial claimants (e.g., preferred stockholders, warrant holders). Coverage will include related governance and agency theory principles as well as the impact of disclosure, fair value accounting, and regulation on financial claimants.
Prerequisites: MBA 451 and MBA 453

MBA 462 Government & Society 1-MBA 1.5 Credit
Economic and strategic analysis of the role of government and social forces in markets and business policies. Topics include environmental controls, consumer protection, antitrust and the promotion of market competition, intellectual property and inventions, and taxation.

MBA 463 Suppliers and Customers 1-MBA 1.5 Credit
Explores how organizations identify customer needs and develop supply chain flows – upstream (backward through the supply levels) and downstream (forward through the channel systems) to deliver goods and services that exceed customer expectations and creates societal value. Covers demand/customer management, supply/capacity planning, raw material/component sourcing, inventory planning, distribution/merchandising, and quality management.
Prerequisites: MBA 455

MBA 464 Employees 1-MBA 1.5 Credit
This course will focus on the evolving social contract between employers and employees in the modern corporation, their causes and consequences. Topics will build on the basics from the Management OB/HR course from the first session. In particular, coverage will include the following issues: procedural justice and fairness; privacy and freedom of speech; work-life balance, diversity, inclusion, and the bottom line; job security and alternative work arrangements, compensation; employee ownership; performance management and career development.

Law Courses
LAW 417 Regulatory Environment of Business 2 Credits
This course is designed to provide students with a basic understanding of the various legal, regulatory, and market constraints in which business operates. Students are introduced to the interplay between legislation, regulations, and court decisions in establishing the regulatory environment in which a business operates as well the allocation of power among federal and state authorities. Conflict of law issues will also be explored for businesses that operate internationally. Contract law, forms of business, and ethics are covered in depth.

Management Courses
MGT 416 Managing Talent 3 Credits
The course is fundamentally about understanding and improving the behavior and performance of individuals in the workplace. As such, we will draw upon key theories in organizational behavior to address human resource issues arising from the employment relationship. Topics will address key areas in the talent pipeline from sourcing and selection, training and development, motivation and performance management, to talent management metrics and analytics.

MGT 461 Strategic Management 1 Credit
Strategic Management covers overall organizational issues in determination, analysis, execution, and control within a global environment. This capstone course integrates theories and concepts from production, marketing, finance, and accounting and provides an opportunity to simulate the function of top level management as it relates to the total business environment through a team-based business simulation. Through readings, written assignments, presentations, in-depth group discussions, and a team-based simulation competition, students will broaden their understanding and practice the art of strategic decision making.

Marketing Courses
MKT 415 Marketing Foundations 3 Credits
This course is designed to provide students with a comprehensive analytical framework to develop, implement and evaluate competitive marketing strategies that achieve organizational goals and objectives. It explores the functional marketing operations of organizations and examines the key elements of a marketing manager’s decision making process. Examples of learning modules include: customer and market analysis, segmentation, targeting and positioning, marketing mix decisions (product, price, placement and promotion).

MKT 425 Brand Strategy 2 Credits
This course is fundamentally about understanding how Brand Equity is built and managed. The course builds on the marketing principles and theories covered in Marketing Foundations, while enabling students to delve into the strategic components that go into building brands and managing brand equity. The course focuses on theories, models and tools that enable managers to develop new and manage existing brands.
Prerequisites: MKT 415

Masters Accounting Courses
MACC 409 Advanced Federal Income Taxation 3 Credits
An advanced study of the taxation of business organizations, estates, trusts, and wealth transfer taxes. Planning and research are the basic components of the course. Problem-solving and written research are emphasized. Credit will not be given for both ACCT 309 and MACC 409.
Prerequisites: ACCT 307

MACC 412 IT Auditing 3 Credits
Addresses internal control and audit issues in an Information Technology (IT) environment. Structured around the COSO internal control framework. Audit procedures for the review of IT general and application controls are examined. Students perform substantive tests on financial databases using audit software. Topics covered: Internal controls in centralized and distributed IT environments, IT outsourcing, IT governance, Data modeling, network and database security, ACL software, SAP processes and control issues.

MACC 413 The Corporate Financial Reporting Environment 3 Credits
This course addresses the nature of corporate financial reporting, its role in providing decision-useful information to capital market participants, standard-setting and the FASB conceptual framework, and theoretical and empirical assessments of its performance.

MACC 420 Forensic Accounting and Auditing 3 Credits
This course focuses on forensic skills to enhance audits and other services rendered by accounting professionals. Materials derived primarily from SEC cases to help students understand more complex financial reporting issues such as earnings management and fraud, apply auditing requirements of SAS 99 and Sarbanes-Oxley dealing with fraud, comprehend services beyond the audit which rely on forensic skills, and demonstrate knowledge through role plays in real world scenarios.
Prerequisites: ACCT 320 or BUA2

MACC 424 Governance, Risk and Control 3 Credits
This course focuses on developing in students an understanding of corporate governance, risk oversight and internal control monitoring from an accounting professional’s perspective. Topics include agency theory, fundamentals of corporate governance, risk and internal control, functions of the board of directors and the audit committee, independent auditor and impediments to audit quality, internal auditor’s role, and SEC regulations and laws impacting governance, risk and control. Class discussions, interactive group exercises, role plays, field projects, and real-life cases are used.
Prerequisites: ACCT 320 or BUA2

MACC 427 Reporting and Auditing Fair Value Estimates 3 Credits
Explores the theory and mechanics of financial reporting of assets and liabilities presented at fair value. The course focuses on U.S. GAAP standards relating to the recognition, measurement, valuation, and disclosure of fair value in financial statements. The course also examines management incentives in reporting and issues faced by auditors in providing assurance regarding these estimates.
MACC 430 Data Analytics for Accountants 3 Credits
This course uses publicly available financial statement information to programmatically analyze company activities. Obtaining, cleaning, exploring, analyzing with statistical and machine learning methods, and presenting accounting data are explored in a project based format. Non-financial related information analyses are linked to audit and risk assessments. Projects and papers involve actual entities and associated financial information. Credit will not be given for both MACC 42x, Data Analytics for Accountants and ACCT 3xx, Data Analytics for Accountants.
Prerequisites: ECO 045

Project Management Courses

PMTG 409 Project Management Fundamentals 3 Credits
Introduction to project management – survey of the knowledge areas and approaches to managing projects. Looks at the relationship of projects to organizational strategy and culture, how to initiate a project, principles of planning and project execution and control, managing stakeholders, and communicating effectively. A review of the competencies required to address the complexities and challenges of projects. Hands-on approach to developing project management work artifacts and simulated project management game are used.

PMTG 410 Project Requirements and Scope Management 1 Credit
Focuses on understanding the principles and nuances of managing project and product scope: the boundaries of inclusion and exclusion of the product – its features and functions, and of the project – the work involved to create the project’s product. Addresses the methods for eliciting and managing product and project requirements, defining the project scope, creating a scope baseline, and managing changes to control scope creep.
Prerequisites: PMGT 409
Can be taken Concurrently: PMGT 409

PMTG 411 Project Scheduling, Estimating & Budgeting 1 Credit
This course explores the methods and challenges of developing project estimates, schedules, and budgets. Expectations about project timelines and costs cause a great deal of friction and frustration in projects. In this course students will learn how to build a schedule using the critical path method, methods for resource loading, developing contingency reserves, and time and cost estimates. They will also learn how to present schedule information to manage expectations and deal with slippage when they occur.
Prerequisites: PMGT 409 and PMGT 410
Can be taken Concurrently: PMGT 409, PMGT 410

PMTG 412 Advanced Scheduling & Scheduling Tools 1 Credit
This course deals with developing a schedule in MS Project in a hands-on class. Students will learn to build a fully resource loaded, networked, and baselined schedule in MS Project, and how to manage from that schedule. Students will also explore the principles of critical chain scheduling, dealing with risks in schedules, and using the schedule to forecast outcomes and communicate effectively with stakeholders about time expectations.
Prerequisites: PMGT 409 and PMGT 410 and PMGT 411

PMTG 413 Project Risk Management 1 Credit
As projects always involve a new and unique endeavor to the performing organization, uncertainty is a part of every project. Effective project management prepares for the risks - both jeopardies and opportunities - presented by these uncertainties. In this class we will explore both the classic and some more advanced methods for dealing with project risks.
Prerequisites: PMGT 409 and PMGT 410
Can be taken Concurrently: PMGT 409, PMGT 410

PMTG 414 Managing Project Quality 1 Credit
Students will explore the key concepts of quality management and how they apply in projects. This class discusses the use of the quality management tools and methods, practices for holding quality reviews, and for developing project quality management plans.
Prerequisites: PMGT 409 and PMGT 410
Can be taken Concurrently: PMGT 409, PMGT 410

PMTG 415 Project Procurement & Negotiation 1 Credit
This class focuses on the tools and practices used in managing procurement on projects, and best practices for negotiation and supplier management. It explores the role of the contract, types of contracts, developing the statement of work, RFP, screening & selection criteria, and the procurement management plan. It also looks at how to manage contractors throughout the project.
Prerequisites: PMGT 409 and PMGT 410
Can be taken Concurrently: PMGT 409, PMGT 410

PMTG 416 Decision Making and Ethics on Projects 1 Credit
This class looks at the factors and processes for making effective and ethical decisions on projects. The unknowns, complexities, time and cost pressures, and cross-functional stakeholders make good decision-making imperative for both long-term and short-term success. Students will use a variety of tools and techniques for team decision-making. Class includes a role-play game based on the Challenger accident to explore issues.
Prerequisites: PMGT 409

PMTG 417 Project Leadership 1 Credit
Good management skills alone will not create project success. Leadership, which is much more elusive, is equally if not more important. This class will explore models of leadership and how they apply to projects, styles of leadership, motivation, influence, politics, and dealing with difficult stakeholders.
Prerequisites: PMGT 409
Can be taken Concurrently: PMGT 409

PMTG 418 Facilitation and Teamwork for Projects 1 Credit
This class focuses on the principles and practices of teamwork, an essential element for projects. Students will examine the effectiveness of different types of team structures and maturity levels for teams and organizations. They will learn methods for dealing with conflict, facilitating groups, and the different types of meetings used in projects. This class will use case studies as well as hands-on methods.
Prerequisites: PMGT 409
Can be taken Concurrently: PMGT 409

PMTG 419 Adaptive and Agile Project Management 1 Credit
In this class we will explore the new methods used for more extreme projects – those with more complexity, market acceptance, time pressure, and advanced technology. Students will examine the factors affecting complex projects with cross-functional and dispersed teams as well as principles for Agile project approaches. This class will use case studies as well as hands-on methods.
Prerequisites: PMGT 409 and PMGT 410 and PMGT 411 and PMGT 414

PMTG 420 Managing Projects for Innovation 1 Credit
Traditional project management tries to instill discipline in a seemingly chaotic process, but for innovation to thrive we must couple discipline with creativity. In this class students will explore the paradoxes of innovations create, and look at ways to remove blocks and spark imagination while producing value for the organization. Case studies and hands-on techniques will be utilized in this course.
Prerequisites: PMGT 409 and PMGT 410 and PMGT 411 and PMGT 413

PMTG 421 Project Management Capstone 1-3 Credits
This class is conducted as an independent study and involves applying the principles and practices of the previous project management classes to a real-life project or approved case study. You will develop a set of project documents and provide a critical analysis of the project to demonstrate your mastery of the project management skills prescribed for a predictive (plan-based) project.
Prerequisites: PMGT 409 and PMGT 410 and PMGT 411 and PMGT 413 and PMGT 416
Supply Chain Management Courses

SCM 423 Supply Chain Operations Management 2 Credits
This course provides an essential understanding of managing global supply chains and operations within the context of an integrated value chain. Topics addressed include the fundamentals of supply chain management; supply chain risk management; quality management; demand and supply chain planning, including forecasting, capacity planning, aggregate planning, and scheduling; the components of a lean supply chain; inventory and working capital management; distribution and transportation management; and performance measurement. Special emphasis is given to managing supply chains from a financial perspective.