Business and Economics Graduate Programs and Courses

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 Economics, the Master of Science in Management, and the Ph.D. in Business and Economics. Graduate certificate programs offered include Corporate Entrepreneurship, Project Management 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 students applying to any graduate programs in the College of Business and Economics are required to take the TOEFL for admission to the program.

MASTER OF BUSINESS ADMINISTRATION

The Lehigh MBA program is accredited by AACSB International- the Association to Advance Collegiate Schools of Business. The Lehigh MBA program provides a rich, integrated learning experience for students. Business issues are viewed and taught from the perspective of the firm as a whole rather than along departmental lines. Lehigh’s MBA curriculum is a fully integrated model which simulates the business environment in the classroom. 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 MBA program is available through on campus study or through distance education. Students may elect to follow one mode exclusively or mix and match modes. MBA concentrations in finance, international business, marketing, project management, and supply chain management are currently available through distance study.

MBA Mission Statement

The 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 MBA program will also foster life-long learning through continuing professional education programs.

Innovative Structure

The 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</th>
<th>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. 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 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 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. 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 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) 758-3418
email: mba.admissions@lehigh.edu (mbd.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/Ed. Leadership is a 45-credit joint degree 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 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 courses</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>
<th>Course</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
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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 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 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 eighteen 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 401</td>
<td>Professional Issues in Accounting - Negotiation</td>
<td>1</td>
</tr>
<tr>
<td>MACC 402</td>
<td>Professional Issues in Accounting - Case Analysis</td>
<td>1</td>
</tr>
<tr>
<td>MACC 403</td>
<td>Professional Issues in Accounting – Ethics</td>
<td>1</td>
</tr>
<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 420</td>
<td>Forensic Accounting and Auditing</td>
<td>3</td>
</tr>
<tr>
<td>MACC 424</td>
<td>Governance, Risk and Control</td>
<td>3</td>
</tr>
<tr>
<td>MACC 427</td>
<td>Accounting for Financial Instruments</td>
<td>3</td>
</tr>
</tbody>
</table>

ELECTIVES

Select 12 elective credit hours in consultation with MSAIA Program Director

Total Credits 30

Electives

The MSAIA curriculum provides for twelve 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.

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 630. A score of at least 580 and 50th percentile in the quantitative sections 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; phone: (610) 758-3418 email: business@lehigh.edu.; or Professor David Hinrichs, Director, M.S. in Accounting and Information Analysis Program, phone: (610) 758-4674 email: djh404@lehigh.edu.

http://cbe.lehigh.edu/msia

MASTER OF SCIENCE IN ECONOMICS

A minimum of 30 semester hours of course work is required.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECO 402</td>
<td>Managerial Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECO 412</td>
<td>Mathematical Economics</td>
<td>3</td>
</tr>
<tr>
<td>ECO 415</td>
<td>Econometrics I</td>
<td>3</td>
</tr>
<tr>
<td>ECO 417</td>
<td>Advanced Macroeconomic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ECO 447</td>
<td>Economic Analysis of Market Competition</td>
<td>3</td>
</tr>
</tbody>
</table>

Select 15 credit hours of electives 15

Total Credits 30

Students may also elect to write an M.S. thesis. The thesis is worth six hours of credit toward the degree and is particularly encouraged for those who may be considering the Ph.D. program.

Further information about the M.S. in Economics Program may be obtained by contacting the Graduate Programs Office of the College of Business and Economics or Dr. Robert Thornton, Director M.S. in Economics Program, Lehigh University, College of Business and Economics, 621 Taylor Street, Bethlehem PA 18015, email rjt1@lehigh.edu.

phone: (610) 758-3460 email: business@lehigh.edu.

http://cbe.lehigh.edu/mseco

MASTER OF SCIENCE IN MANAGEMENT

The Master of Science in Management (M²) is a nine month program designed to build core business education onto the foundation of a liberal arts or scientific degree (such as engineering or nursing). 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 (such as trips to New York and Washington DC), and professional development (such as presentation skills and business etiquette). During the January intersession students will have the opportunity to have an optional experiential engagement through internships, consulting projects, 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
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 (M²) 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, phone: (610) 758-3418, email: business@lehigh.edu; or Mary Theresa Taglang, Director, M.S. in Management Program, phone: (610) 758-4386, email: mt4@lehigh.edu.

http://cbe.lehigh.edu/phd

CERTIFICATE PROGRAMS (NON-DEGREE)

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

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

Elective Courses

Select 6 credit hours from the following: 6

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

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 Project Management

This 12 credit hour certificate will prepare students to take the Project Management Professional certification exam offered by the Project Management Institute (PMI) - the field’s leading global professional association. Lehigh University is a Registered Education Provider (R.E.P.) with the Project Management Institute. The certificate is

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 expected to choose one major and two minor fields 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 Dr. Muzhe Yang, Director Ph.D. in Business and Economics Program, Lehigh University, College of Business and Economics, 621 Taylor Street, Bethlehem PA 18015, phone: (610) 758-4962, email: business@lehigh.edu
completed within 12 months through both on-line and on-campus modules that are taken sequentially.

### Directed Electives (12 credits)

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMGT 401</td>
<td>Project Management: Course Framework &amp; Project Leader Assessment</td>
<td>1</td>
</tr>
<tr>
<td>PMGT 402</td>
<td>Project Management: Skills and Abilities for Effective Leadership of Teams</td>
<td>1</td>
</tr>
<tr>
<td>PMGT 403</td>
<td>Project Management: Initiating the Project and Planning Scope and Schedule</td>
<td>2</td>
</tr>
<tr>
<td>PMGT 404</td>
<td>Project Management: Planning Resources, Communication, Quality and Risk Management</td>
<td>2</td>
</tr>
<tr>
<td>PMGT 405</td>
<td>Project Management: Project Leader Communications Expertise and Evaluating Team Performance</td>
<td>1</td>
</tr>
<tr>
<td>PMGT 406</td>
<td>Project Management: Implementing and Managing Projects</td>
<td>2</td>
</tr>
<tr>
<td>PMGT 407</td>
<td>Project Management: Controlling Performance and Assessing Outcomes</td>
<td>2</td>
</tr>
<tr>
<td>PMGT 408</td>
<td>Project Management: Problem Solving, Decision Making and Ethics</td>
<td>1</td>
</tr>
</tbody>
</table>

### Total Credits: 12

### Admission Requirements

Students admitted to the certificate program will enter as non-degree students. Applicants are required to have a 3.0 undergraduate GPA, two years of professional work experience, and a 4 year baccalaureate degree from an accredited college or university. Graduate students at Lehigh University may apply for the program without meeting additional requirements.

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

### Associate Professors

Anne-Marie Anderson, PhD (University of Arizona); Liuba Y. Belkin, PhD (Rutgers University); Ravindra Chitturi, PhD (University Texas, Austin); Nevena Taneva Koukova, PhD (University of Maryland); Douglas M. Mahony, PhD (Rutgers University); James M. Maskulka, DBA (Kent State University); Chad Meyerhoefer, PhD (Cornell University); Oleksandr Nikolsko Rzhevskyky, PhD (University of Houston University Park); Corinne A. Post, PhD (Rutgers University Newark); Catherine M. Ridings, PhD (Drexel University); Jesus M. Salas, PhD (University of Oklahoma); Stephen F. Thode, DBA (Indiana University Bloomington); Andrew John Ward, PhD (University of Pennsylvania); Muzhe Yang, PhD (University of California Berkeley); Ke Yang, PhD (University of Iowa); Zach G. Zacharia, PhD (University of Tennessee Knoxville)

### Assistant Professors

Keith A. Botner, PhD (University of Utah); Weiija Dai, PhD (University of Maryland); Beibei Dong, PhD (University of Missouri, Columbia); William Forster, PhD (University of Virginia); Michael B Imerman, PhD (Rutgers University); Taewan Kim, PhD (Syracuse University); Ernest Kong-Wah Lai, PhD (University of Pittsburgh); Alberto Lamadrid, PhD (Cornell University); Ju-Yeon Lee, PhD (University of Washington); Yung-Yu Ma, PhD (University of Utah); Irina Panovska, PhD (Washington University); Steven McKay Price, PhD (Florida State University); Marina Puzakova, PhD (Drexel University); Seth Richards-Shubik, PhD (University of Pennsylvania); Naomi B. Rothman, PhD (New York University); Charles E. Stevens, PhD (Ohio State University); Dawei Zhang, PhD (University of Calgary)

### Lecturer

Chitra S. Nayar, MBA (University of Iowa)

### Professors

Michael R Catalano, MBA (Cornell University); Joshua Walter Ehrig, MA (Lehigh University); Dale F. Falcinelli, MS (Lehigh University); Robert Kuchta, MS (New Jersey Institute of Technology); David H. Myers, PhD (University of Washington); Paul Myerson, MBA (Temple University); Steven L. Savino, MBA (Wake Forest University); Samuel C. Weaver, PhD (Lehigh University)

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### Total Credits: 12

### Admission Requirements

Students admitted to the certificate program 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.

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
Emeriti. J. Richard Aronson, PHD (Clark University); Nicholas W. Balabkins, PHD (Rutgers University); Richard W Barnes, PHD (University of Minnesota); Alden S. Bean, PHD (Northwestern University); Carl R. Beideman, PHD (University of Pennsylvania); John W. Bonge, PHD (Northwestern University); James Edward Hansz, PHD (University of Cincinnati); 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); Warren A. Pillsbury, PHD (University of Virginia); Peter P. Poole, PHD (The Pennsylvania State University); Theodore W. Schlie, 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.

Prerequisites: Must have Excel competency

BIS 448 Business Intelligence 3 Credits
The course covers theories and practices in business intelligence for improved business decision making. Includes: key theories, concepts, and models of business intelligence; data mining tools and methods. The course has hands on use of BI software and real large scale data. Topics include prediction, forecasting, classification, clustering, data-visualization and data reduction techniques. This course, a graduate version of BIS 348, requires additional, advanced projects and assignments. Credits will not be given for both BIS 348 and BIS 448.

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

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

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

Prerequisites: ECO 401

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 357 or 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 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 401 and 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.

Prerequisites: ECO 402

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 (ENGL 490) Master's Thesis 0-6 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 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 organizationâ€™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-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 venture and sustain it over the long run. 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; successfully launching the new venture; and 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-oriented 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.

GBEN 415 LehighSiliconValley 1-3 Credits
Immersion study-abroad-like program focused on venture capital-backed companies and the paths taken to start, build, and exit an enterprise. Offered in the hub of entrepreneurship, Silicon Valley, live cases draw on seasoned practitioners from all reaches of the venture community. Students strategically analyze and evaluate startups, lead discussion, and assess team performance in recommending go-forward strategies. Emphasis on real companies, real players, and real situations in real time create a highly charged learning environment. Winter term. Includes pre-trip sessions. Competitive admission. Program fees.

GBEN 424 Entrepreneurship & Innovation: From Idea to Opportunity 3 Credits
Thought about starting a business but wonder where to begin? focuses on the idea stage of new venture creation where discovery plants seeds of future enterprises. Student projects, case studies and speakers introduce personal, interpersonal, financial, and legal challenges startups encounter. Drawing on research on entrepreneurial decision-making, students learn to think and behave entrepreneurially. Participants “kick the tires” on their own and others’ just-emerging ideas and improve them. For those interested in starting a business sometime in their lives.

GBEN 492 Special Topics 1-3 Credits
Graduate Business Courses
GBUS 401 Financial Reporting for Managers and Investors 3 Credits

GBUS 408 Advanced Business Speaking and Pragmatics 2 Credits
Designed to assist international business students become capable communicators within the U.S. and the global marketplace. Students will increase their oral communicative competence and socio-cultural communication awareness through assignments designed to help them learn successful behaviors and customs that are essential elements of oral communication in U.S. graduate business courses, job searching, networking, business presentations, and career development. Students are assessed through their successful use of advanced language functions during the application of face-to-face business settings including business-style negotiations, interviews, presentations, and panel discussions.

GBUS 409 Advanced Business Writing and Reading 2 Credits
Designed to introduce international business students to the types of rhetoric and written structures required in an American university graduate business program, as well as in most business environments; and to provide them with the skills and strategies that are necessary to produce cogent academic essays and papers, as well as business summaries and briefs for the global marketplace. Using a process writing approach, students model expository, chronological order/process, compare and contrast, cause and effect, argumentative, and problem-solution styles, as well as formal and informal business written communication styles. Students are assessed through their successful use of these rhetorical models in writing, their advanced level of academic vocabulary and grammatical structures, as well as through summaries and analyses of research-level articles that include appropriate academic publication conventions.

GBUS 413 Advanced Management Accounting 3 Credits
Issues in management accounting including activity-based costing, activity-based management, strategic cost management, theory of constraints, advanced manufacturing technologies, cost of quality and lifecycle costing. Readings and cases. Prerequisites: MBA 403

GBUS 414 Financial Statement Analysis and Interpretation 3 Credits
This course focuses on analysis of financial statements. It develops the skills necessary to interpret and use financial statement information effectively to assess profitability and risk and is intended for individuals likely to become intensive users of financial accounting information. Requirements include readings, case studies, presentations, and written analysis of actual financial statements. Prerequisites: (MBA 402) or (ACCT 151 and FIN 125 or FIN 225)

GBUS 419 Financial Management 3 Credits
An intermediate level course in corporate finance. Coverage includes capital budgeting techniques including real options, decision tree analysis, risk analysis, advanced cost of capital theories, capital structure theory, dividend policy, working capital management, mergers and acquisitions, restructuring, and bankruptcies. The course emphasizes both theory and practice through lectures, cases, and financial modeling exercises. Students not possessing the relevant prerequisites must obtain waivers from the designated finance faculty representative. Prerequisites: (MBA 402) or (ACCT 151 and FIN 125)

GBUS 420 Investments 3 Credits
A survey course in investments. Overview of financial institutions and markets involved in the issuance and trading of securities. Emphasis on valuation and risk assessment of fixed income and equity securities. Construction of optimal portfolios and examination of performance measures. Students not possessing the relevant prerequisites must obtain waivers from the designated finance faculty representative. 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: GBUS 419 (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.
Prerequisites: MBA 403
GBUS 459 Survey of Project Management 3 Credits
This course provides an overview of the project management framework and knowledge areas. Covers the day-to-day, hands-on problems of managing a project (defined as a temporary structure within a permanent organization, set up to achieve a specific objective). Areas covered will include: project integration, project scope, project planning and implementation, project control and evaluation, project cost and risk management, project resource management and organization, and project communication. Cases will be used to illustrate problems and the techniques to solve them. A basic project management software tool will be introduced and utilized in this course. This course is designed for MBA students who want a general exposure to project management concepts. This course may not be used in the Project Management Certificate Program.
Prerequisites: MBA 404

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 systems and 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; and (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, 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)

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 a detailed discussion of concepts, case analyses and discussion, insights from practitioners, and group projects.

GBUS 471 Strategic Brand Management 3 Credits
This course will focus on theories, models, and other tools to manage brands, products, and product lines. Specific attention will be focused on building, measuring, and managing brand equity. The course will be a mixture of lectures, discussions, case analyses, and group exercises.

GBUS 472 Strategies for Services Marketing 3 Credits
This course focuses on the challenges of marketing and managing services (whether in a manufacturing or service business) and discusses 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 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 475 Global Marketing Strategies 3 Credits
The course is designed to provide a framework within which global marketing operation can be analyzed, understood, and undertaken. The course focuses on the 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, and lectures.
Prerequisites: MBA 404

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; operation's contributions to competitive advantages in cost, quality and variety and new product introduction.

GBUS 486 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 490 Thesis 0-6 Credits
GBUS 492 Special Topics 1-4 Credits
Repeat Status: Course may be repeated.
MGIT 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.

MGIT 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, market mix decisions (product, price, placement and promotion).
Prerequisites: Must have Excel competency

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 401 Professional Issues in Accounting - Negotiation 1 Credit
This course examines the behavioral foundations of the negotiation process. Topics include planning, tactics, power, integrative and distributive bargaining, behavioral styles and individual and team negotiations. Open only to MSAIA students.

MACC 402 Professional Issues in Accounting - Case Analysis 1 Credit
Introduces business case analysis. Cases will be dissected, analyzed and discussed. A range of business topics will be used to demonstrate the case method. Open only to MSAIA students.

MACC 403 Professional Issues in Accounting – Ethics 1 Credit
Explores the fundamentals of making ethical business decisions in both domestic and international engagements. Students learn to identify ethical dilemmas and are trained to utilize a framework for making decisions. The course also examines the impact poor ethical standards and fraud has on the sustainability and growth of the free market economy. The course format consists of team and class discussions as well as written individual exercises. Open only to MSAIA students.

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 process 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 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 BUAA2 and MACC 401 and MACC 402 and MACC 403

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 BUAA2 and MACC 401 and MACC 402 and MACC 403

MACC 427 Accounting for Financial Instruments & Advanced Financial Statement Analysis 3 Credits
This course provides an introduction to accounting for financial instruments. Topics include, accounting for stock options, fair value accounting for financial instruments, accounting for fair value hedges, cash flow hedges, foreign exchange hedges, tests for assessing effectiveness of hedges and constructing accounting entries associated with hedges, interest rate swaps, and accounting for securitization. The second half focuses on analysis and interpretation of financial and non-financial information to evaluate firm performance and valuation.

Project Management Courses

PMGT 401 Project Management: Course Framework & Project Leader Assessment 1 Credit
This course serves as the introduction to the Project Management Certification Program. Students will become acquainted with: the terminology, nine knowledge areas, relationships to other disciplines, project management context and processes. This course also provides an introduction to the logistical vehicles for course delivery and the tools to be used. Students will also assess themselves as project leaders and explore project leader competencies, roles, responsibilities and stakeholder relationships.

PMGT 402 Project Management: Skills and Abilities for Effective Leadership of Teams 1 Credit
Students will enhance project team leadership skills, define the work environment of project teams, team selection, develop a team charter, clearly define the roles and responsibilities of all project team members, set team guidelines, learn methods to promote teamwork, understand the stages of development, and manage team dynamics. Additional skills covered: delegation, managing accountability without direct authority over project team members, managing dysfunctional teams, performance improvement, input to performance appraisals, rewards, recognitions, celebrations.
Prerequisites: PMGT 401
Can be taken Concurrently: PMGT 401

PMGT 403 Project Management: Initiating the Project and Planning Scope and Schedule 2 Credits
Students will learn techniques for deciding whether to undertake a project and for planning project outcomes and schedules. The relationship of projects to organizational planning and budgeting, information and performance appraisals systems will be discussed. Approaches will be shared for identifying and classifying project stakeholders and designing and conducting a cost benefit analysis. How to define desired project outcomes clearly and completely and how to determine project work to be performed using decomposition and templates will be addressed. Students will learn how to develop a project charter, a scope statement, a Work Breakdown Structure, a WBS dictionary and a Linear Responsibility Chart. How to create a network diagram and analyze schedule possibilities using the Critical Path Method (CPM) and the Program Evaluation and Review Technique (PERT) will be explained. Fast tracking and crashing a schedule will also be explored. Displaying a schedule with a Gantt Chart, key events list and activities will be illustrated. How to support these activities using MS Project will be demonstrated.
Prerequisites: PMGT 401 and PMGT 402
Can be taken Concurrently: PMGT 401, PMGT 402
PMGT 404 Project Management: Planning Resources, Communication, Quality and Risk Management 2 Credits
In this course, students will learn how to estimate the needs for personnel and other types of projects resources, to develop a project budget and to plan for additional project support activities. Determining the type, amount and timing of resource needs will be emphasized. Approaches to resource leveling will be discussed. The different types of project costs will be explained. The use of analogous estimating, parametric modeling, bottom-up estimating and computerized tools to estimate costs will be explored. Planning to ensure project quality and coordinate project communications will be be will be addressed. Identifying, assigning, and preparing a plan to manage project risks will also be discussed. Planning for project procurement and associated solicitations will be explained. Students will learn how to develop resource matrices, loading charts and grafts and a project budget. How to support these activities using MS Project will be demonstrated.
Prerequisites: PMGT 401 and PMGT 403
Can be taken Concurrently: PMGT 401, PMGT 402, PMGT 403, PMGT 404

PMGT 405 Project Management: Project Leader Communications Expertise and Evaluating Team Performance 1 Credit
The purpose of this weekend seminar is to strengthen the project leader's communication skills, change-management skills, conflict resolutions skills, and team evaluation skills. Focus areas will also include the following: understanding the art and science of effective listening, managing multiple expectations, communicating "bad news," and learning tools and techniques for project team evaluation.
Prerequisites: PMGT 401 and PMGT 402 and PMGT 403 and PMGT 404
Can be taken Concurrently: PMGT 401, PMGT 402, PMGT 403, PMGT 404

PMGT 406 Project Management: Implementing and Managing Projects 2 Credits
Students will learn techniques and processes to start and perform the actual project work. Suggestions for working successfully in a matrix management environment will be discussed. Information systems to track schedule performance, labor charges and project expenditures will be expressed. Developing escalation procedures to address project conflicts issues will be emphasized. Procedures for controlling labor and fund charges to a project will be introduced. Key project review and decision meetings will be identified. Planning and implementing quality assurance activities will be addressed. Planning for, awarding and administering contracts will be discussed. How to support these activities using MS Project will be demonstrated.
Prerequisites: PMGT 401 and PMGT 402 and PMGT 403 and PMGT 404
Can be taken Concurrently: PMGT 401, PMGT 402, PMGT 403, PMGT 404

PMGT 407 Project Management: Controlling Performance and Assessing Outcomes 2 Credits
Students will learn how to monitor and control project activities in progress and how to bring a project to closure. Approaches for assessing project products and services produced will be explored. Techniques for evaluating schedule and cost performance will be introduced. Variance analysis and earned value analysis will be explained. Quality control and risk monitoring and control will be discussed. Change control systems and procedures will be explained. How to prepare focused progress reports and conduct effective project meetings will be discussed. Requirements for closing out contracts and procurements will be detailed. Obtaining user acceptance, closing labor and fund charge accounts and other administrative activities will be discussed. Designing and conducting a post-project review will be explored. How to support these activities using MS Project will be demonstrated.
Prerequisites: PMGT 401 and PMGT 402 and PMGT 403 and PMGT 404 and PMGT 405 and PMGT 406
Can be taken Concurrently: PMGT 401, PMGT 402, PMGT 403, PMGT 404, PMGT 405, PMGT 406

PMGT 408 Project Management: Problem Solving, Decision Making and Ethics 1 Credit
This 2 day seminar focuses on developing problem solving and ethical decision-making skills. Students will learn to recognize project problems, frame the problem, assess risk, manage risk, plan contingencies, recognize the escalation points, and apply alternate methods. Students will also participate in ethical exercises to strengthen their ability to recognize ethical dilemmas and evaluate decisions.
Prerequisites: PMGT 401 and PMGT 402 and PMGT 403 and PMGT 404 and PMGT 405 and PMGT 406 and PMGT 407
Can be taken Concurrently: PMGT 401, PMGT 402, PMGT 403, PMGT 404, PMGT 405, PMGT 406, PMGT 407

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.