

Master of Business Administration

The Master of Business Administration (MBA) program is designed to provide engineers and technical managers an academic learning experience that qualifies them to be leaders, to better accomplish their managerial responsibilities and in many cases to advance in their management responsibilities. The curriculum is challenging and prepares students for management or leadership positions in all types of technical businesses and service and governmental organizations.

The MBA is a professional degree that provides knowledge relating to business management skills in diverse areas ranging from accounting to organizational behavior. It provides students the opportunity to learn the analytical, technical, and behavioral tools that can be used to solve organizational problems. Courses provide students an in-depth understanding of the business environment, including the importance of communication, consideration of ethics, awareness of stakeholders, management of change, and strategies for decision-making in complex situations.

Any person who has managerial experience can benefit from the formal study of business skills and knowledge that the MBA program provides. Students come from diverse backgrounds and include managers with undergraduate degrees in engineering, technology, computer science, and other technical and quantitative disciplines. NTU's MBA program is intended to meet the needs of this broad but unique population of working adult managers and supervisors who can benefit from a graduate business education. It is designed on the model of executive MBA programs, where students' busy schedules and work experience are acknowledged as qualifying them for a "fast-track" program, allowing completion in approximately two-and-a-half years of part-time study.

The MBA program requires a minimum of 36 semester credit hours, consisting of core courses, specialization courses, and elective courses. The core courses have been developed based on extensive research into many leading MBA programs and comments from our corporate clients about what is lacking in these programs for engineers and technology professionals. The core courses also take into account the needs and skill sets that engineers and technical professionals

already possess. The core content has been developed in a collaborative, integrated manner to provide a coherent, consistent curriculum with various threads that students can follow to further develop their skill sets. These threads include the following:

- Change Management
- Communication and Collaboration
- Constituency Awareness
- Decision Making
- Ethics
- Managing Distance
- Networking

Elective courses may be taken from many of the diverse course offerings available through NTU. In many cases, students may choose to enhance their technical competency by taking coursework in one or more of the outstanding engineering graduate courses offered through NTU. Students should work with their NTU advisors to select the coursework most appropriate for their plan of study.

Admissions Requirements

Students must meet the following eligibility requirements for regular admission into the Master of Business Administration program:

- BS degree in technology, engineering, or a related field; or the equivalent from a foreign institution.
- Cumulative undergraduate G.P.A. of at least 2.9 on a 4.0 scale.
- At least one year of work experience.
- A letter of support from a supervisor indicating the organization's support of the planned educational program and addressing the likelihood of academic and career success.

Students who do not meet these requirements may be granted provisional admission into the program, depending on academic background and experience. For additional information about provisional admission status, see the Admission section of this bulletin.

Curriculum Overview

A total of 36 semester credit hours are required for graduation. Students will complete six core courses, four courses within a specialization, and two electives chosen from any of the graduate-level courses offered through NTU.

Core Curriculum (18 credits)

There are six integrated and required core courses covering the following content areas:

- Organizational Behavior
- Leadership and Teamwork
- Strategy and Negotiation
- Technology and Operations Management
- Marketing Management
- Finance and Accounting

Due to the integrated design of the core with the inclusion of threads to further develop critical skill sets, the above core courses must be taken through NTU; students may not transfer credits for core content from other institutions. Students are encouraged to complete the MBA core courses prior to pursuing their specializations.

Specializations and Electives (18 credits)

Beyond the core MBA curriculum, students pursue specializations, completing four courses identified by NTU as appropriate to provide specialization in a particular area. That specialization may be enhanced further by choosing two associated elective courses. In each of the specialization areas listed below, NTU recommends elective content areas for further study; however, students may select their two elective courses from any of NTU's graduate-level courses, provided they have the appropriate prerequisite knowledge. The MBA specialization areas include the following:

Creation and Distribution provides students the opportunity to emphasize manufacturing and logistics management in high-technology companies. Specialization courses include the following content areas:

- Total Quality Management
- Supply Chain Management
- Modern Manufacturing Method and Systems
- Operations Research

Suggested electives include the following:

- Integrated Design and Manufacturing
- Legal and Policy Issues
- Economic Decision Analysis
- Modeling Manufacturing Systems
- Risk Management
- Methods for Quality Improvement

Cross-Functional Projects, designed for engineers, computer professionals, and technical managers, provides students with a systems view of project management. Specialization courses include the following content:

- Introduction to Project Management
- Advanced Project Management
- Project Planning, Scheduling, and Control
- Integrated Risk Management

Suggested electives include the following:

- Supply Chain Management
- Legal and Policy Issues
- Total Quality Management
- Methods for Quality Improvement
- Emerging Technologies
- Economic Decision Analysis

Emerging Technologies provides students the opportunity to emphasize strategic management and utilization of technology. Specialization courses include the following content areas:

- Emerging Technologies
- Marketing Advanced Technologies
- Global Competitive Environment
- Legal and Policy Issues

Suggested electives include the following:

- Supply Chain Management
- Project Management
- Advanced Project Management
- Integrated Risk Analysis
- Total Quality Management
- Methods for Quality Improvement

Information Strategies provides students the opportunity to emphasize the information systems or information technology sector. Specialization courses include the following content areas:

- Data Management
- Management of Computer and Information Systems
- Enterprise Resource
- Business Process Innovation

Suggested electives include the following:

- Information Systems
- Information Systems Principles
- Software Engineering
- Distributed Database Design
- Information Systems Security
- Datamining
- Legal and Policy Issues

Quantitative Studies provides students the opportunity to emphasize technical management, focusing on quantitative modeling and analysis to support engineering decisions and functions. Specialization courses include the following content areas:

- Operations Research
- Integrated Risk Management
- Total Quality Management
- Project Management

Suggested electives include the following:

- Supply Chain Management
- Global Competitive Environment
- Legal and Policy Issues
- Emerging Technologies
- Marketing Advanced Technologies
- Methods for Quality Improvements

Program of Study Plan

Admitted students should submit a Program of Study Plan (PSP) to NTU prior to completion of six semester credit hours. Failure to submit a PSP increases the possibility of students completing duplicate courses or courses that are not applicable to their degree programs. Although NTU cannot guarantee preferred course availability in any given term, the PSP documents do guide course selection from partner universities. It may be necessary for a student to revise an approved PSP when course availability does not comply with the student's needs. The PSP form should be submitted through the NTU Web site.

Listed below are the MBA core courses and recommended course options for the specialization areas. The electives listed below are suggestions only: students may select their two elective courses from any of NTU's graduate-level courses, provided they have the appropriate prerequisite knowledge.

Specific courses and course requirements may change. Updates will be posted on the NTU Web site.

Core Courses (18 credits)

- NB 720 Organizational Behavior—Working Within the Equations of State (first course for all admitted MBA students)
- NB 721 Leadership and Teamwork—Momentum Transfer Using Power, Influence, and Collaboration
- NB 740 Strategy and Negotiation—Solving the Boundary Value Problem
- NB 710 Technology and Operations—Moore's Law and Other Business Accelerators
- NB 730 Marketing—Maximizing the Organizational I/O Bus
- NB 750 Accounting and Finance—Measurement and Flow Control for the Economic Engine

Specialization and Elective Courses (18 credits) Creation and Distribution

Specialization Courses (12 credits)

- TO 750 Total Quality Management
- MG 723 Supply Chain Management
- SP 565 Modern Manufacturing Systems and Practices
- QM 710 Operations Research

Suggested Elective Courses (6 credits)

- TO 751 Methods for Quality Improvement
- TO 760 Introduction to Project Management

Cross-Functional Projects

Specialization Courses (12 credits)

- SY 563 Integrated Risk Management
- TO 760 Introduction to Project Management
- TO 761 Advanced Topics in Project Management
- NB 762 Project Planning, Scheduling, and Control

Suggested Elective Courses (6 credits)

- EF 735 Economic Decision Analysis
- MG 723 Supply Chain Management

Emerging Technologies

Specialization Courses (12 credits)

- TO 735 Marketing Advanced Technologies
- MG 726 Global Competitive Environment
- MG 770 Legal Environment of Business
- MB 713 Technological Innovation, Emerging Technologies, and Commercialization

Suggested Elective Courses (6 credits)

- SY 563 Integrated Risk Management
- MG 723 Supply Chain Management

Information Strategies

Specialization Courses (12 credits)

CS 750 Data Management
SE 787 Management of Computer and Information Systems
SE 786 Business Process Innovation
NB 722 Enterprise Resource Planning and Management

Suggested Elective Courses (6 credits)

TO 710 Information Systems
ST 760 Information Systems Security

Quantitative Studies

Specialization Courses (12 credits)

SY 563 Integrated Risk Management
TO 750 Total Quality Management
TO 760 Introduction to Project Management
QM 710 Operations Research

Suggested Elective Courses (6 credits)

TO 751 Methods for Quality Improvement
MG 770 Legal Environment of Business