**TECHNOLOGY MANAGEMENT, M.S.**

**Areas of Emphasis**

**Environmental Management**

**Information Security**

**Information Technology**

**Manufacturing Systems**

**Pharmacy (see TM Program Coordinator)**

**Transportation Systems and Technology**

**Graduate Certificate in Information Security**

**~~Graduate Certificate in Bioinformatics~~**

**Graduate Certificate in Technology Management**

**Program Description**

The M.S. in Technology Management degree program is designed primarily for working professionals with both technical and non-technical backgrounds who want a better understanding of technological change and its relevance to competitiveness and business strategy. Program coursework has a practical emphasis, with real-world projects designed to develop skills that can be put to use on the job immediately. Courses are currently available in Huntington and South Charleston with several courses offered online or virtually. Program benefits:

* Learn how to evaluate and use technology to meet changing customer needs and markets
* Learn how to weigh the costs/benefits of technology decisions
* Understand the effects of technological change on organizations and how to help people adapt to change
* Learn about technology life cycles and how to evaluate emerging technologies
* Explore common problems of management and organizations—and their relationships to technology
* Understand the interrelationships of quality, productivity, and technology
* Network with other professionals

Courses are offered using a variety of delivery methodologies to accommodate working and remote students. Most courses are available live on one of the Marshall campuses. Many also use an Internet-based learning management system so students may choose to attend live or via the Internet. Some classes are 100% online.

*(continued)*

**Admission Requirements**

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at *www.*

*marshall.edu/graduate/admissions/how-to-apply-for-admission.*

1. *General Admissions Requirements*

Each applicant for admission must have an undergraduate degree from an accredited college or university (there is no stipulation concerning the undergraduate major) and must satisfy at least ONE of the following criteria

* + Score at the mean or above on the verbal GRE
  + Score at the mean or above on the quantitative GRE
  + Score at the mean or above on the analytical GRE
  + Score at the mean or above on the GMAT
  + Have an undergraduate GPA of 2.50 or above
  + Have previously completed a master’s degree from an accredited college or university.
  + Have 10 or more years of documented relevant professional work experience

1. *Program Requirements*

In addition to the general requirements all students must complete the following:

* + Submit a written summary (2 typewritten pages maximum) of education and professional experiences, and career goals related to the TM program including the Area of Emphasis the applicant is interested in pursuing.
  + Complete an interview with the TM program coordinator or designee, with part of the interview consisting of discussion of the written summary.

**Degree Requirements**

Degree requirements consist of ~~seven~~ five core courses (~~21~~  15 semester hours), four area-of-emphasis courses (12 semester hours), and a capstone project (3 semester hours), for a total of ~~36~~ 30 semester hours. You must have the Technology Management advisor’s approval to enroll in Technology Management degree program courses.

**Plan of Study**

A Plan of Study approved by the student’s advisor must be on file before the student registers for his or her 12th semester hour. The Plan of Study is a student’s “blueprint” for completing graduation requirements.

**Core Courses**

|  |  |
| --- | --- |
| TM 610 | Technology and Innovation Management |
| TM 612 | Economic and Financial Analysis for Technology Management |
| TM 620 | Technology Planning |
| TM 630 | Quality and Productivity Methods |
| ~~EM 620~~ | ~~Management of Technical Human Resources and Organizations~~ |
| ~~EM 660~~ | ~~Project Management~~ |

~~Plus one of the following:~~

TM 615 Information Technology Strategies ~~EM 694 Engineering Law~~

Each student selects an Area of Emphasis, consisting of four courses. Currently, the following emphases are available:

*Environmental Management*:

Environmental Regulations

Environmental Risk Assessment

Environmental Management Systems

One course selected from among:

Hazardous Waste Management, Environmental Site Assessment, or Geographic Information Systems, Project Management

Other courses may be taken with permission of the student’s advisor.

*Information Security:*

Information Security

Communication and Network Technologies

Computer Systems Security

One additional 3 credit hour elective, chosen from TM, ~~or~~ IS or Project Management courses, with permission of the student’s advisor

*Information Technology:*

Four approved courses from the following list:

~~Computing and Information Systems Technologies~~

Communication and Network Technologies

~~Multimedia Production and Electronic Information Dissemination~~

Geographic Information Systems

Health Informatics

Software Engineering

Information Security

Computer Systems Security

Systems Analysis

Database Management

Data Warehousing

Project Management

Other courses may be taken with permission of the student’s advisor.

*Manufacturing Systems:*

Applied Computer Integrated Manufacturing

Modern Manufacturing Concepts

Two courses selected from:

Applied Statistics

Operations Research I

Operations Management

Project Management

Other courses with permission of the advisor

*Transportation Systems and Technologies:*

This area of emphasis is offered in cooperation with the Nick J. Rahall II Appalachian Transportation Institute. Intelligent Transport Systems - Three courses, selected with Technology Management Advisor approval.

Possible choices include: Traffic Engineering, Safety in Transportation, Human Factors in Accident Prevention,

Traffic Safety Management, Urban and Regional Planning, Engineering Law, Operations Research I,

Operations Research II, Transportation Systems, Geographic Information Systems, Project Management. Some of these courses have prerequisites; students taking the courses must meet prerequisites.

The Technology Management Capstone Project (TM 699) will be work-related, oriented toward the Area of Emphasis, and directed by an academic advisor.

**Graduate Certificate in Information Security**

Evidence of information security coursework is required for many federal and Department of Defense (DoD) funded projects. This certificate will typically meet the government requirements for certification and continuing education for several security certifications.

**Admission Requirements**

Students may pursue the graduate certificate while enrolled in the Technology Management M.S. program OR as a certificate-only student. Students already enrolled in the M.S. degree program should submit to Graduate Admissions a Secondary Program Request form: *www.marshall.edu/graduate/secondary-program-request-form.*

Applicants interested in the certificate-only program should apply for admission to Marshall University as a Certificate/ Professional Development student and select on the application form the Certificate in Information Security. The admissions requirements for the certificate program are the same as for the Technology Management M.S. program.

**Curriculum**

|  |  |
| --- | --- |
| IS 631 | Information Security |
| IS 656 | Communications and Network Technologies |
| IS 646 | Computer Systems Security |
| IS 647 | IT Disaster Planning & Recovery |
| TM 615 | IT Strategies |

**Credit Hours: 15 – All required**

**Graduate Certificate in Technology Management**

Completion of the ~~seven~~ five core courses will qualify a student for a certificate in Technology Management, if he/she elects not to complete the Technology Management degree.

**Admission Requirements**

An applicant interested in the certificate program should apply for admission to Marshall University as a Certificate/ Professional Development student and indicate the Certificate in Technology Management on the application. The admission requirements for the certificate program are the same as for the M.S. in Technology Management degree.

**Curriculum**

|  |  |
| --- | --- |
| TM 610 | Technology and Innovation Management |
| TM 612 | Economic and Financial Analysis for Technology Management |
| TM 620 | Technology Planning |
| TM 630 | Quality and Productivity Methods |
| ~~EM 620~~ | ~~Management of Technical Human Resources and Organizations~~ |
| ~~EM 660~~ | ~~Project Management~~ |

~~Plus one of the following:~~

TM 615 Information Technology Strategies ~~EM 694 Engineering Law~~