

TECHNOLOGY MANAGEMENT (TECM)

600 Level Courses

TECM 601: *Business Models*. 1 credit.

Provides an introduction to high tech industries, emerging technologies and business models that are transforming technology-intensive industries such as music, financial services and healthcare. The course covers techniques for analyzing how organizations create, deliver and capture value. The students use case-based approach to analyze traditional and high-tech organizations to understand their business models, and identify causes for success and failures. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy or Graduate.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 603: *IT Leadership and the Global CIO*. 1 credit.

This course provides an introduction and overview of Information Technology (IT) leadership and the role of the evolving CIO. The focus is on the global nature of the CIO position in organizations today. The relationship between the CIO and other c-level executives is examined including new positions such as the Chief Digital Officer that overlap with the CIO position. The responsibilities of the CIO in organizations in the US and abroad are explored. This course integrates with the global residency and global business perspectives course. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy or Graduate.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 611: *Leadership and Change Management*. 2 credits.

Examines the critical roles and functions of leadership with special attention to how leaders influence organizational performance and manage change. Topics include providing direction, creating a culture for effectiveness, the use of power and influence, leadership development, leading under changing conditions, and leading and managing change. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy or Graduate.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 614: *Financial and Cost Accounting*. 2 credits.

Focuses on the economics and analysis of business transactions and financial reporting. Topics include an introduction to the financial reporting framework, review of how accountants measure and manage financial reporting, an introduction to cost concepts and product costing, and an analysis of capital investments and management control. Emphasis is placed on providing an analytic framework for evaluating transactions and companies. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy or Graduate.

Enrollment is limited to Graduate or Undergraduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 620: *Economics of Global Technology Management*. 1-3 credits.

This course will take an economics-based approach to developing a framework for managers to use in analyzing problems and making decisions in a global business context. Emphasis will be placed on the importance of incentives and information in shaping decisions and results. Major elements to be treated include factors influencing the global demand for products and services, the nature of input-output relationships, the determinants of costs and profitability, and the global competitive environment within which firms operate. Particular attention will be directed toward the role of information-technology resources in determining organizational performance, the significant features of global markets related to information technology, and the potential for innovation to create competitive advantages. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Recommended Prerequisite: Admission to Technology Management Program or permission of the program director.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy or Graduate.

Enrollment is limited to Graduate or Undergraduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 635: *Decision Models for Technology Management.* 1-3 credits.
Explores current metrics and metric development for quality, intangible assets, and project management as required within information technology companies. Applies statistical tools of best use with these metrics. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Recommended Prerequisite: Admission to Technology Management Program or permission of the program director.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy or Graduate.

Enrollment is limited to Graduate or Undergraduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 641: *Negotiation and Conflict Management.* 1-3 credits.
Students acquire insights and skills for negotiation and conflict resolution as they relate to a variety of organizational situations - including teamwork, communication and coordination, power and influence, legal disputes, career development, cross-cultural and international issues, as well as tackling ethical problems. The course is highly experiential, and is built on a foundation of hands-on exercises and extensive class discussion. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy or Graduate.

Enrollment is limited to Graduate or Undergraduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 643: *Managerial Finance.* 2 credits.
Surveys the theory and practice of corporate financial management with specific application to the technology sector. Students develop an understanding of key elements required in the valuation of project alternatives; including their strategic importance. Students evaluate and use financial management models and gain an understanding of how finance can be employed as a source of potential competitive advantage. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy or Graduate.

Enrollment is limited to Graduate or Undergraduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 696: *Directed Studies in Technical Management.* 1-3 credits.
Approval by faculty member and program director required prior to registration. Studies specialized topics in business not otherwise available in the curriculum. Offered by Information Sys and Ops Mngmnt. May be repeated within the degree for a maximum 3 credits.

Recommended Prerequisite: Admission to the TECM program or permission of the program director.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Junior Plus, Non-Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may **not** enroll.

Schedule Type: Independent Study

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 697: *Special Topics in Technology Management.* 1-3 credits.
Sections established as necessary to focus on various topical issues that emerge in practice of business. Offered by Information Sys and Ops Mngmnt. May be repeated within the term for a maximum 6 credits.

Specialized Designation: Topic Varies

Recommended Prerequisite: Admission to the TECM program or permission of the program director.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy, Graduate, Junior Plus, Non-Degree or Senior Plus.

Enrollment is limited to Graduate, Non-Degree or Undergraduate level students.

Students in a Non-Degree Undergraduate degree may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Special scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

700 Level Courses

TECM 702: *Building High Performance Global Teams.* 2 credits.
This course seeks to deepen your understanding of human behavior in organizations and to improve your ability to manage human capital from a global business perspective. Topics include effective managerial learning, problem solving, decision making, building and maintaining effective work relationships, building and leading teams, and motivating and evaluating performance from a cultural and international business context. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment is limited to students with a major in Professional Studies(Tech Mgt) or Technology Management.

Enrollment is limited to Graduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 704: *Management of Technology Projects and Portfolios.* 2 credits. Examines advanced topics in project and program management, with specific attention to the issues that managers face to effectively manage programs. This involves managing resources (both internal and external to the organization) and managing within an existing organizational structure. Specific program management topics include advanced topics for project management, program alignment with strategic objective, management of stakeholders, and development and organization of the program office. Strategic and operational tools and metrics also are discussed. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment is limited to students with a major in Professional Studies(Tech Mgt) or Technology Management.

Enrollment is limited to Graduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 711: *Deriving Strategic Value from IT Investments.* 2 credits. Reviews approaches for aligning IT strategy and investment with organizational strategy. The course covers methodologies for IT investment, planning and control including cost benefit, economic and risk analysis; benefits of alternative IT investments; methods of technology road mapping; and capital investment analysis. IT performance assessment methodologies and acquisition planning and design, are also reviewed. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment is limited to Graduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 720: *Competitive Strategy in Technology Industries.* 2 credits. Provides students with an understanding of the impact of information technology on firms and industries and equips them to develop and execute appropriate strategies. Although the emphasis is on information technology firms and industries, a key goal of the course is to better

prepare students to respond to a diverse array of information technology challenges. Course work covers the demand and the supply side of information technology, as well as the development of frameworks and analytical tools to help put events, behaviors, and processes into understandable contexts. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Recommended Prerequisite: Admission to Technology Management Program or permission of the program director. TECM 615 and 620.

Registration Restrictions:

Enrollment is limited to students with a major in Professional Studies(Tech Mgt) or Technology Management.

Enrollment is limited to Graduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 721: *Digital Transformation.* 1-3 credits.

This course will focus on understanding IT strategy and the alignment to business strategy and current digital transformation initiatives. Digital transformation represents a major initiative for most companies and requires considerable organizational change over time. Many companies have hired Chief Digital Officers to lead this effort in companies. This course will provide industry perspectives on digital transformation trends and competitive implications. Industry examples and company strategies will be examined. Students will learn the skills to set a vision, develop a strategy, and execute a plan for digital transformation for an organization. This course is designed around industry perspectives with experts on digital transformation across industries participating in the classes. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy or Graduate.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 735: *Technology Management Capstone Project.* 0-1 credits.

Teams undertake a strategic evaluation and plan for IT-driven business initiatives. Presentation includes analysis of competitive forces and the value chain; recommendations, including changes in goals and organizational design; plan of action integrating marketing, human resource development, organizational design, finance, and information technology; and implementation plan using theories of communication and change management, to include business case and business plan. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Recommended Prerequisite: Admission to Technology Management Program or permission of the program director.

Registration Restrictions:

Enrollment is limited to Graduate or Non-Degree level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Satisfactory/No Credit scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 741: *Marketing of Innovations and Technology*. 2 credits.

Provides students the opportunity to conduct a detailed exploration of effective marketing strategies, including product and service development, branding, and customer relationships, in preparation for developing a marketing plan for a technology related innovation. Specific course topics include: assessing the marketplace, understanding the customer, market segmentation, developing and positioning the offering, pricing, branding, distribution, and promotion. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment is limited to Graduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 745: *Leading and Managing IT Operations*. 2 credits.

Explores best practices in the IT industry. Students analyze practices in terms of gaining competitive advantage in an industry where the scarcity economic model for products no longer applies. Course work focuses on leading an organization with the IT function. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment is limited to students with a major in Professional Studies(Tech Mgt) or Technology Management.

Enrollment is limited to Graduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 746: *Enterprise Architecture and IT Governance*. 2 credits.

Examines the operational, financial and strategic considerations of leading enterprise architecture and reviews the historical development of enterprise architecture. Major enterprise architecture frameworks including Zachman and TOGAF are examined. The relationship of enterprise architecture to IT governance, approaches to IT governance and the role of the CIO, and the relationship of IT governance to organizational performance, are also discussed. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment is limited to Graduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 747: *Information Assurance and Security Management*. 2 credits.

Addresses the increasingly critical areas of information security and information assurance. Specific focus is on best practices for assessment, planning and management of information security strategy, policy, organizations and controls to minimize the risks pertaining to unauthorized use, processing, storage, and communication of digital information. Pertinent legislation and policy requirements are also covered. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment is limited to Graduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 749: *Developing and Emerging Technologies*. 1-3 credits.

This course will focus on an understanding of the current technology landscape of emerging technologies and technologies that are moving into the maturing phase. It is essential that IT leaders keep abreast of the latest technologies and understand the implications for industries, the workplace, and society. Emerging technologies can be disruptive to business as usual and understanding the business implications early is crucial for success. The course is designed around industry perspectives with experts on various technologies participating in the classes. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy or Graduate.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 752: *Global Technology Management*. 1-3 credits.

Provides the opportunity for students to spend a week in a country or countries that are leading edge in technology and technology management. Students visit corporations and governments and interact with corporate and IT executives, and government leaders. Topics include CIO and eGovernment, commercialization of emerging technologies, national competitiveness, international development, global supply chains and virtual teams. Offered by Information Sys and Ops Mngmnt. May be repeated within the degree for a maximum 3 credits.

Registration Restrictions:

Enrollment is limited to Graduate level students.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 753: *Global Leadership Perspectives*. 1-3 credits.

This course will focus on understanding global dimensions of doing business across borders that IT leaders need to understand to conduct their business successfully. It has become essential that IT leaders understand the political, legal, economic, social, and technological issues that impact business operations in other countries. Global supply chains and integration of technology through global networks require an understanding of global operations, differences in negotiating contracts, and importance of establishing relationships. Understanding differences and similarities in developing and emerging markets is key to reverse innovation success in these markets. This course is designed around industry perspectives with various experts on global topics participating in the classes. Offered by Information Sys and Ops Mngmnt. May not be repeated for credit.

Registration Restrictions:

Enrollment limited to students with a class of Advanced to Candidacy or Graduate.

Students in a Non-Degree Post-Baccalaureate or Non-Degree Undergraduate degrees may **not** enroll.

Schedule Type: Lecture

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 760: *CIO Applied Project*. 1-3 credits.

This course represents the applied project for the CIO Certificate. Students will develop a strategic IT project that addresses an IT leadership issue for a company that the CIO would be responsible for implementing (e.g., Develop a Cloud Strategy for a company or IT systems integration plan). Students work in teams and present their work to company representatives from the company they are working with. Offered by Information Sys and Ops Mngmnt. May be repeated within the term for a maximum 3 credits.

Specialized Designation: Topic Varies

Registration Restrictions:

Required Prerequisites: (TECM 602^{B-} or 602^{XS}) and (TECM 620^{B-} or 620^{XS}) and (TECM 702^{B-} or 702^{XS}) and (TECM 752^{B-} or 752^{XS}) and (TECM 763^{B-} or 763^{XS}).

^{B-} Requires minimum grade of B-.

^{XS} Requires minimum grade of XS.

Enrollment is limited to students with a major in Technology Management.

Enrollment is limited to Graduate level students.

Enrollment limited to students in a Master of Science degree.

Schedule Type: Fieldwork

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 761: *Global IT Leadership Applied Project*. 1-3 credits.

This course is a Global IT applied project that intersects with a specific company need and student team interest. Students will work in teams to complete a project that relates to global IT management and provides value to the company undertaking the project. Projects may focus on global reverse innovation strategies, global expansion strategies, merger and acquisition strategies across borders, or other project that has a substantial IT component that IT leaders might encounter. Students will present their recommendations to representatives of the company and/or faculty and others from the business community. Offered by Information Sys and Ops Mngmnt. May be repeated within the term for a maximum 3 credits.

Specialized Designation: Topic Varies

Registration Restrictions:

Required Prerequisites: ((TECM 602^{B-} or 602^{XS}) and (TECM 620^{B-} or 620^{XS}) and (TECM 702^{B-} or 702^{XS}) and (TECM 752^{B-} or 752^{XS})).

^{B-} Requires minimum grade of B-.

^{XS} Requires minimum grade of XS.

Enrollment is limited to students with a major in Global IT Leadership or Technology Management.

Enrollment is limited to Graduate level students.

Schedule Type: Fieldwork

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)

TECM 762: *IT Strategy and Digital Transformation Applied Project*. 1-3 credits.

This course represents the applied project for the IT Strategy and Digital Transformation Certificate. Students will work in teams to develop a digital transformation strategy for a company. Company representatives will work with students to develop the strategy based on requirements of the company that may be comprehensive or focus on a particular domain such as customer experience. Prior course work provides the foundation and skills for students to complete this applied project. Students will present their recommendations to representatives of the company and /or faculty and others from the business community. Offered by Information Sys and Ops Mngmnt. May be repeated within the term for a maximum 3 credits.

Specialized Designation: Topic Varies

Registration Restrictions:

Required Prerequisites: (TECM 602^{B-} or 602^{XS}) and (TECM 620^{B-} or 620^{XS}) and (TECM 702^{B-} or 702^{XS}) and (TECM 752^{B-} or 752^{XS}).

^{B-} Requires minimum grade of B-.

^{XS} Requires minimum grade of XS.

Enrollment is limited to students with a major in Global IT Leadership or Technology Management.

Enrollment is limited to Graduate level students.

Schedule Type: Fieldwork

Grading:

This course is graded on the Graduate Regular scale. (<http://catalog.gmu.edu/policies/academic/grading/>)