



# TECHNOLOGY MANAGEMENT CENTER

## SENTRO ng PAMAMAHALA sa TEKNOLOHIYA

Location: UP TMC, ASTI Bldg. CP Garcia Avenue, Diliman, Quezon City, 1101 Philippines  
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**T**he Technology Management Center (TMC) is a multi-disciplinary program of the University of the Philippines. It was formally established through a resolution approved by the UP Board of Regents on 23 February 1995. The TMC is mandated to serve two fundamental purposes: 1) to respond to the recognized need of firms and industries for technology upgrading, productivity improvement, and enhanced global competitiveness; and 2) to respond to the established requirements of the Philippine government for expert advice and assistance on science and technology policy analysis and formulation; technology forecasting, planning, and assessment; R&D management; and program and project management.

The TMC is guided by a renewed vision in the performance of its mandate, which is, to serve as a world-class center for advanced education, research, and extension services in the new and dynamic field of Technology Management. By definition, Technology Management is the management and integration of the technological processes of a firm or nation with the end in view of formulating and implementing a coherent technology strategy that informs and reinforces the firm's or nation's overall strategy. In living up to this definition and in realizing this vision, the TMC pursues the following objectives:

- To provide advanced education and training in technology management.
- To undertake interdisciplinary research on various aspects of technology management.
- To provide advice and assistance to the government on technology forecasting, planning and assessment, S&T policies, R&D management, and other macroeconomic aspects of technology management.
- To assist local entrepreneurs, business and industry executives, and other technology users in their efforts to harness and manage technology for competitive advantage.
- To raise public awareness of the importance of science and technology, technological innovations, and national technology development for economic growth and improved standards of living.

The TMC is the first of its kind in the country and the ASEAN region, being an interdisciplinary undertaking where it draws from the expertise, experience and perspectives of nine UP Diliman units affiliated with the Center, namely, the:

- College of Science
- College of Engineering
- College of Business Administration
- School of Economics
- College of Social Sciences and Philosophy
- National College of Public Administration and Governance
- College of Home Economics
- Asian Center
- Institute of Small Scale Industries

The TMC is directly attached to the Office of the Chancellor of UP Diliman for its administrative supervision and program coordination.

*Assisting the Chancellor in the administration of the Center is the TMC Coordinating Council composed of the deans and directors of the affiliated UP Diliman units. The day-to-day management of the Center is the responsibility of the Executive Director, assisted by the Deputy Director.*

*The programs and services of the Center, which are described below, are undertaken through a select group of UP Diliman affiliate faculty members, adjunct faculty, and research fellows. These faculty and fellows are renowned for their outstanding qualifications and experience in teaching, consulting and research in academe, industry and government, in their respective fields of discipline and in various aspects of Technology Management or its components.*

## **PROGRAMS OFFERED**

### **GRADUATE PROGRAMS**

The TMC offers graduate courses leading to the degree of Master of Technology Management (MTM). The MTM program uses an interdisciplinary approach that combines business management, engineering, and the social and physical sciences. It is the first ever graduate program of its kind to be offered in the country, and in UP. The MTM program has two fundamental objectives, namely:

- 1) To produce Technology Managers for both the business and public sectors who can respond effectively to rapid technological changes and innovations by harnessing these to enhance the productivity, quality, competitiveness, and service of their respective organizations.
- 2) To equip policymakers and analysts with the knowledge and skills needed to analyze the economic, political, and socio-cultural aspects of technological change and innovation.

The MTM program is designed for present and prospective managers, entrepreneurs and consultants in the business sector, as well as for policy analysts, planners, managers of R&D institutions, and program and project managers in government agencies, government corporations, and non-government organizations.

### **Training Programs**

For those unable to pursue a full degree graduate program, the TMC offers short-term executive courses for business and industry executives, entrepreneurs, corporate planners, government science and technology policymakers and analysts, and other technology users. Among the topics taught in these training programs are the following.

- 1) Technology Commercialization
- 2) Strategic Technology Management
- 3) Science and Technology Policy Analysis
- 4) Total Quality Management
- 5) Management of R&D and Innovation
- 6) Project Management

### **Research Programs and Consulting Services**

The TMC faculty affiliates conduct research and engage in consulting activities that address various Technology Management issues.

### **Conferences, Workshops, and Other Fora**

The TMC conducts special workshops, symposia, conferences, and situationers to raise public awareness and the level of discussion on technology and innovation issues.

### **Networking**

Through its facilities, national as well as international contacts, and expertise, the TMC serves as a vital link between industry, government and the academe. The TMC also holds roundtable discussions on industry sectors such as electronics, ICT, and packaging. These roundtable discussions are currently on-going.

### **ADMISSION REQUIREMENTS**

Admission is open to all bachelor's degree-holders with very good academic records. Preference will be given, however, to those with backgrounds in engineering and science, business, economics, and the social sciences. Applicants with work experience in corporate planning, program/project management, development planning, policy analysis, S&T or R&D institutions, and other technology-related backgrounds will also be given priority.

Applicants are asked to submit to the Technology Management Center the following documents:

- 1) An accomplished application form;
- 2) Two recommendation forms;
- 3) Original transcript of records;
- 4) Certified true copy of diploma or certificates of graduation;
- 5) Permit to study from the employer (if the applicant is employed);
- 6) Two (2) ID pictures (2x2) to be attached to the application form, and four (4) ID pictures (1x1); and
- 7) Birth Certificate (NSO authentic original document)

Applicants from schools where English is not a medium of instruction are required to take the TOEFL and obtain a score of at least 500 paper-based 173 computer-based, or 61 internet-based (IBT). Applicants may also be asked to undergo an interview and a written examination if necessary.

DIPLOMA IN TECHNOLOGY MANAGEMENT 18 units			
APPROVAL 73rd UPD UC : 28 February 2001   President FNemenzo : 15 March 2001			
1st Semester 9 units		2nd Semester 9 units	
TM 201	3	TM 205	3
TM 281	3	TM 206	3
Elective	3	Elective	3

MASTER OF TECHNOLOGY MANAGEMENT 36 units			
APPROVAL 99th UPD UC : 18 April 2007   President ERRoman : 27 March 2007			
Core Courses 24 units		Electives 9 units	
TM 201	3	Elective Courses	
TM 204	3	9 units of the following:	
TM 205	3	TM 211, 221, 225, 231, 232, 255,	
TM 206	3	271, 298	
TM 241	3		
TM 251	3		
TM 281	3		
TM 291	3		
Major Project Course 3 units		Comprehensive Examination	
TM 299	3	Comprehensive Examination	

## COURSE OFFERINGS

## TECHNOLOGY MANAGEMENT (TM)

- 201 Overview of Technology Management.** The nature, processes and dynamics of technology; technology management and competitive strategy at the firm, industry, and national levels. Prereq: COI. 3 u.
- 202 Technological Innovation.** The nature, types, process and importance of technological innovation; technology transfer and dissemination; technological learning and mastery; emerging modes of technological innovation. Prereq: COI. 3 u.
- 204 Management of Research and Development.** Systematic treatment of the various issues and factors inherent in the management of R&D; R&D strategies; measurement and assessment of R&D productivity; strategic R&D management. Prereq: TM 201, 202/COI. 3 u.
- 205 Financial Analysis for Technology Managers.** Analytical tools and techniques for the generation of financial information in aid of managerial decision-making; uses and limitations of current management accounting tools and theories for technology investment decisions. Prereq: COI. 3 u.
- 206 Technology Marketing and Commercialization.** The R&D/marketing interface in technological innovation; the process of commercializing new technologies. Prereq: TM 201/COI. 3 u.
- 211 Economics of Technological Change.** Technology as a factor affecting micro and macro economic outcomes; influence of micro and macroeconomic factors on the nature, pace and pattern of technological change. Prereq: TM 201, 202, elementary differential calculus/COI. 3 u.
- 213 Information Technology Management.** Basic concepts of management of information systems. 3 u.
- 214 Organizations and Technological Change.** The interplay of technological change with organizational roles, structures, processes, and dynamics at the firm level. Prereq: TM 201/COI. 3 u.
- 221 Technology and Competitive Strategy.** Technology and technological capability as a source of firm and industry competitive advantage. Prereq: TM 201, 202, 205. 3 u.
- 222 Management of Product and Process Innovation.** Concepts, approaches, and methods for the effective organization and management of product and process innovation. Prereq: TM 201, 202/COI. 3 u.
- 225 Total Quality Management.** Framework, tools and techniques for designing, installing and improving quality management and quality assurance systems; integrating successful determinants of total quality; research and experiential

applications of total quality management. Prereq: TM 201, 202/COI. 3 u.

**231 National Innovation Systems.** Science, technology and innovation policies, institutions and practices in selected countries. Prereq: TM 201, 202/COI. 3 u.

**232 Science and Technology Policy.** Analysis of Philippine science and technology (S & T) as public goods; the evolution of government policies on S & T; contemporary government policies on S & T and their interrelations; impact on trade, economic and industrial policies and the socio-cultural environment; issues on the role of government in the evolution and management of S & T policies; and the role of values in S & T. Prereq: TM 201, 202/COI. 3 u.

**241 Technology Acquisition and Assimilation.** Systematic treatment of issues and problems in the selection, sourcing, transfer, and mastery of exogenous technology. Prereq: TM 201, 202/COI. 3 u.

**251 Technology-Based Entrepreneurship.** Entrepreneurship and its role in fostering technology innovation; organization and financing of business ventures; social dimensions of entrepreneurship. Prereq: TM 201, 202/COI. 3 u.

**255 Legal Issues in Technology Management.** Legal and regulatory environment for technology, innovation, and the enforcement of intellectual property rights (IPR). Prereq: TM 201, 202/COI. 3 u.

**261 Technology, Environment and Sustainable Development.** Technological change and its implications for the natural environment; models of technology-people-nature interactions; technology risk assessment and environmental

ethics; environment-friendly technologies. Prereq: TM 201, 202/COI. 3 u.

**271 Technology Management in the Services Sector.** Technology as a source of competitive advantage in the service sector; techniques and strategies for structuring and managing service enterprises; integration of technology with marketing operations, and human resources for effective service management. Prereq: TM 201, 202/COI. 3 u.

**281 Strategic Technology Planning.** Framework for strategic technology planning at the firm, industry, and national levels; models and methods of technology forecasting and assessment for the formulation of a strategic technology plan. Prereq: TM 201, Elementary Statistics/COI. 3 u.

**291 Management of Technology Programs and Projects.** Principles, methods and techniques for the effective management of technology-oriented programs and projects; program and project organization, structure and staffing; criteria for project analysis and selection; program and project implementation; preparation of detailed plan for a technology management project. Prereq: TM 201, 205, 241, 281. 3 u.

**298 Special Topics in Technology Management.** Prereq: COI. May be offered by the participating units. 3 u.

**299 Special Project in Technology Management.** A supervised major project in technology management involving either S&T policy formulation and implementation or technology management decision-making at the enterprise level. Prereq: TM 291. 3 u.