Master of Science in Technology

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http://new.ipfw.edu/departments/etc/etcs/depts/mcet/ms-tech.html
Revision Summary

Addition

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Modification

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Graduate Program Assessment Plan
Master of Science in Technology

Introduction
The Master of Science in Technology prepares qualified students and working professionals to assume leadership positions and enable them to face the challenges of global technical competition. Creative projects are developed specifically to apply to individual career needs. As a graduate you will have advanced knowledge and skills that are required to function effectively in a modern, international, technical environment and to accept increasing responsibility in industrial and business positions. Core courses are designed to help you develop the skills to do research, evaluation, and analysis.

The Graduate Program’s Mission
To equip future leaders with advanced technological skills and interdisciplinary knowledge to successfully meet and exceed regional, state, and national technological challenges in the areas of information technology, industrial and manufacturing, and service-related industries.

The Goals of MS in Technology
The goals of offering a Master of Science in Technology are to prepare graduates to be competent leaders in their professional field in system improvement and implementation and to be able to address technical and managerial issues through conducting applied research projects.

Currently, there are two technology tracks available to choose:

Industrial Technology/Manufacturing
Develop advanced leadership skills needed by technical managers, supervisors, and related positions in world-class industries. Widen your career potential with project management skills for organizing resources, implementing systems, increasing productivity, reducing waste and improving product quality.

Information Technology/Advanced Computer Applications
Provide the education experiences and technical leaderships in the areas of enterprise IT architecture, IT security, mobile computing and networking, human-computer interaction, and strategic technology management. Learn and apply the principles of system methodologies including analysis, design, creation, and management to contemporary problems that involve advanced computer applications and information technologies.
Program Outcomes

The program outcomes describe the knowledge and skills that students are expected to acquire by completing the degree requirements. The achievement of the outcomes is demonstrated by students’ performance in each course and is evaluated by the instructors. The program outcome revolves around four major areas as follows:

1. Core knowledge
   1.1 Student will demonstrate their knowledge and skills in core areas of technology curriculum including qualitative methods, quality systems and management, and research design and conducting.
   2.1 Students will demonstrate their knowledge in technical, managerial, and leadership problem-solving in elective and specialty courses such as quality and reliability, optimization, modeling and simulation, network security, renewable energy, and cloud computing, to name a few.

2. Research methodologies
   2.1 Students will be able to choose and implement the relevant research methodology to conduct applied research/project in courses relevant to their field of study.
   2.2 Students will demonstrate quantitative and qualitative skills in data gathering and data analysis in the courses relevant to their field of study.

3. Scholarly dissemination of knowledge
   3.1 Students will produce quality oral and written communications on their scholarly works, technical reports, papers, etc., to disseminate knowledge in a clear manner with appropriate writing and citation style.

4. Independent research
   4.1 Students will be able to conduct, complete, and present the results of an applied research/project independently, ethically, and professionally.
   4.2 Students will be able to clearly state the research’s/project’s scope, goals, statement of the problem, methodologies devised, discussion, and recommendations.
   4.3 Students will be able to document the applied research in hand professionally and clearly.
**Assessment**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Evidence</th>
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<tbody>
<tr>
<td>Core knowledge</td>
<td>a) Course assignments</td>
</tr>
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<td></td>
<td>b) Course individual projects</td>
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<td></td>
<td>c) Exams</td>
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<tr>
<td>Research methodologies</td>
<td>a) MS directed project</td>
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<td></td>
<td>b) Course individual projects</td>
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<td>c) Exams</td>
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<td>Scholarly dissemination of knowledge</td>
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<td>b) Course individual projects</td>
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The director of the graduate program conducts three surveys to gain information on the quality of the program and on way in which the program can be improved and modified to better address current students’ and industry needs. The survey will be conducted according as follows:

<table>
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<tr>
<th>Assessment tool</th>
<th>Frequency</th>
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<tbody>
<tr>
<td>Exit survey</td>
<td>Upon graduation</td>
</tr>
<tr>
<td>Alumni survey</td>
<td>Every two years</td>
</tr>
<tr>
<td>Employer survey</td>
<td>Every two years</td>
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</tbody>
</table>

The director of the graduate program and the graduate faculty will meet annually to discuss the results of the surveys for assessment purposes and provide recommendations to the director on ways in which the program can be further improved and enriched.