



Universidad Politécnica de Puerto Rico  
 Graduate School  
 Master Program in Manufacturing Engineering



<b>M.S.M.E.</b> (Thesis Option)	<b>M.E.M.E.</b> (Design Project Option)
Core courses: 15 credit-hours Special Area: 12 credit-hours Electives Area: 6 credit-hours Thesis: 6 credit-hours Total: 39 credit-hours	Core courses: 15 credit-hours Special Area: 12 credit-hours Electives Area: 9 credit-hours Design Project: 3 credit-hours Total: 39 credit-hours

### Core Courses

- GMP 6010 – Professional Writing and Presentations
- MMP 6000 – Advanced Statistics and Quality Improvement<sup>1</sup>
- MMP 6002 – Operations Planning and Control<sup>1</sup>
- MMP 6005 – Process Engineering<sup>2</sup>
- MMP 6006 – Lean Manufacturing

<sup>1</sup> Students with a Bachelor's degree in Industrial Engineering must substitute this course with an elective course with MMP code  
<sup>2</sup> Students with a Bachelor's degree in Chemical Engineering must substitute this course with an elective course with MMP code

### Specialization Courses

#### Pharmaceutical Processes

Must select 12 credits including MMP 6132 which is required

- MMP 6132 – Manufacture of Pharmaceutical Solid Dosage Forms
- MMP 6180 – Material Handling Automation
- MMP 6224 – Manufacture of Pharmaceutical Parenteral Dosage Forms
- MMP 6230 – Manufacture of Pharmaceutical Semisolid Dosage Forms
- MMP 6234 – GMP's and Regulatory Issues
- MMP 6236 – Packaging Technology
- MMP 6564 – Process Validation and Technology Transfer

#### Industrial Automation

Must select 12 credits including MMP 6141, 6143, and 6246 which are required

- MMP 6141 – Industrial Instrumentation
- MMP 6143 – Process Control
- MMP 6180 – Material Handling Automation
- MMP 6236 – Packaging Technology
- MMP 6244 – Process Measurement and Control Standards
- MMP 6246 – Industrial Systems Automation

### Electives Courses\*

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| GMP 6050 – Professional Internship through COOP Program<br>GMP 6510 – Research Methodology<br>MMP 6145 – Lean Six Sigma<br>MMP 6162 – Medical Devices I<br>MMP 6518 – Project Management | MMP 6550 – Ergonomics and Human Factors in the Workplace<br>MMP 6552 – Industrial Safety of OSHA Regulations<br>MMP 6560 – Organizational Behavior<br>MMP 6599 – Special Topics in Manufacturing |
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\* In addition to the current list of elective courses, the student could select as an elective any course with GMP or MMP code that is not specified as a core or specialization course component requirement

- Thesis
- MMP – 6800 - Thesis
  - MMP – 6801 – Thesis Extension

- Design Project
- MMP 6700 – Design Project
  - MMP 6701 – Design Project Extension



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### Core Courses

GMP 6010 – Professional Writing and Presentations  
 MMP 6000 – Advanced Statistics and Quality Improvement<sup>1</sup>  
 MMP 6002 – Operations Planning and Control<sup>1</sup>  
 MMP 6006 – Lean Manufacturing  
 MMP 6008 – Foundations in Quality Learning and Assurance

<sup>1</sup> Students with a Bachelor's degree in Industrial Engineering must substitute this course with an elective course with MMP code.

### Specialization Courses

#### Quality Management

Must select 12 credits including MMP 6130 which is required

MMP 6130 – Six Sigma  
 MMP 6190 – Measuring and Managing Customer Satisfaction and Loyalty  
 MMP 6250 – Audit Program Management  
 MMP 6256 – Assessment Tools to Improve Business Performance  
 MMP 6558 – Machine and Process Characterization  
 MMP 6570 – Design & Implementation of Statistical Sampling Plans

### Electives Courses\*

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Thesis
MMP – 6800 - Thesis
MMP – 6801 – Thesis Extension

Design Project
MMP 6700 – Design Project
MMP 6701 – Design Project Extension

Contact Information:  
 Graduate School

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