



**UNIVERSIDAD POLITÉCNICA DE PUERTO RICO  
GRADUATE PROGRAMS IN MANUFACTURING\*  
2018 - 2020**



COURSE	COURSE TITLE	PRE-REQUISITE	2018-2019				2019-2020			
			FA	WI	SP	SU**	FA	WI	SP	SU**
<b>CORE COURSES</b>			<b>2018-2019</b>				<b>2019-2020</b>			
GMP 6010	Professional Writing and Presentations	NONE	X	X	X		X	X	X	
MMP 6000	Advanced Statistics and Quality Improvement	MGM 5700 or SC	X	X	X		X	X	X	
MMP 6002	Operations Planning and Control	MGM 5700 or SC		X	X	X		X	X	X
MMP 6005	Process Engineering	NONE	X	X			X	X		
MMP 6006	Lean Manufacturing	NONE	X	X	X		X	X	X	
MMP 6008	Foundations in Quality Learning and Assurance	NONE	X	X	X		X	X	X	
MMP 6050	Materials Flow and Logistics	NONE	X				X			
MMP 6052	Managerial Finances and Cost Accounting	NONE		X				X		
<b>MANUFACTURING COMPETITIVENESS</b>										
<b>A) Pharmaceutical Products Specialization Courses</b>			<b>2018-2019</b>				<b>2019-2020</b>			
MMP 6110	Industry Profile and Business Management for Health Care	NONE		X				X		
MMP 6132	Manufacture of Pharmaceutical Solid Dosage Forms	NONE	X				X			
MMP 6224	Manufacture of Pharmaceutical Parenterals Dosage Forms	NONE		X				X		
MMP 6230	Manufacture of Pharmaceutical Semisolid Dosage Forms	NONE		X				X		
MMP 6234	GMP'S and Regulatory Issues	NONE	X				X			
MMP 6236	Packaging Technology	NONE			X				X	
MMP 6564	Process Validation and Technology Transfer	NONE			X				X	
<b>B) Quality Management Specialization Courses</b>										
MMP 6130	Six Sigma	MMP 6000	X		X		X		X	
MMP 6190	Measuring and Managing Customer Satisfaction and Loyalty	MMP 6008		X				X		
MMP 6250	Audit Program Management	MMP 6008			X				X	
MMP 6256	Assessment Tools to Improve Business Performance	MMP 6008	X				X			
MMP 6558	Machine and Process Characterization	MMP 6000	X		X		X		X	
MMP 6570	Design and Implementation of Statistical Sampling Plans	MMP 6000		X				X		
<b>MANUFACTURING ENGINEERING</b>										
<b>A) Pharmaceutical Processes Specialization Courses</b>			<b>2018-2019</b>				<b>2019-2020</b>			
MMP 6132	Manufacture of Pharmaceutical Solid Dosage Forms	NONE	X				X			
MMP 6180	Material Handling Automation	MMP 6002		X				X		
MMP 6224	Manufacture of Pharmaceutical Parenterals Dosage Forms	NONE		X				X		
MMP 6230	Manufacture of Pharmaceutical Semisolid Dosage Forms	NONE		X				X		
MMP 6234	GMP'S and Regulatory Issues	NONE	X				X			
MMP 6236	Packaging Technology	NONE			X				X	
MMP 6564	Process Validation and Technology Transfer	NONE			X				X	
<b>B) Industrial Automation Specialization Courses</b>										
MMP 6141	Industrial Instrumentation	NONE	X				X			
MMP 6143	Process Control	NONE		X				X		
MMP 6180	Material Handling Automation	MMP 6002		X				X		
MMP 6236	Packaging Technology	NONE			X				X	
MMP 6244	Process Measurement and Control Standards	MMP 6141 or MMP 6142		X				X		
MMP 6246	Industrial Systems Automation	MMP 6142 or MMP 6143			X				X	
<b>C) Quality Management Specialization Courses</b>										
MMP 6130	Six Sigma	MMP 6000	X		X		X		X	
MMP 6190	Measuring and Managing Customer Satisfaction and Loyalty	MMP 6008		X				X		
MMP 6250	Audit Program Management	MMP 6008			X				X	
MMP 6256	Assessment Tools to Improve Business Performance	MMP 6008	X				X			
MMP 6558	Machine and Process Characterization	MMP 6000	X		X		X		X	
MMP 6570	Design and Implementation of Statistical Sampling Plans	MMP 6000		X				X		

# GRADUATE PROGRAMS IN MANUFACTURING

Continued

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			FA	WI	SP	SU**	FA	WI	SP	SU**
<b>ELECTIVE COURSES***</b>			<b>2018-2019</b>				<b>2019-2020</b>			
GMP 6050	Professional Internship through COOP Program	MMDA								
GMP 6510	Research Methodology	18 Credits Approved	X	X	X		X	X	X	
MMP 6145	Lean Six Sigma	MMP 6006, MMP 6130	X	X	X		X	X	X	
MMP 6162	Medical Devices Technology I	NONE			X				X	
MMP 6518	Project Management	MGM 5700 or SC		X				X		
MMP 6550	Ergonomics and Human Factors in the Workplace	NONE			X				X	
MMP 6552	Industrial Safety and OSHA Regulations	NONE		X				X		
MMP 6560	Organizational Behavior	NONE	X				X			
MMP 6599	Special Topics in Manufacturing	MMDA								
<b>DESIGN PROJECT</b>										
MMP 6700	Design Project	All Core and Specialization Courses and MMDA	X	X	X		X	X	X	
MMP 6701	Design Project Extension	MMP 6700 and MMDA	X	X	X		X	X	X	
<b>THESIS</b>										
MMP 6800	Master's Thesis	All Core and Specialization Courses and MMDA	X	X	X		X	X	X	
MMP 6801	Master's Thesis Extension	MMP 6800 and MMDA	X	X	X		X	X	X	

\* THIS ACADEMIC OFFERING IS SUBJECT TO CHANGES

\*\* Academic Offering for the Summer trimester (SU) is optional for students

\*\*\* 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

Legend:

<b>X</b> = Indicates Course will be offered this Term	<b>SC</b> = Similar Course
<b>MMDA</b> = Master's in Manufacturing Director Approval	