MECHANICAL ENGINEERING WITH MANUFACTURING & DESIGN EMPHASIS, B.S.

Course	Title	Credits
General Requirements		
General Education (https://catalog.uwplatt.edu/undergraduate/degree-requirements/bachelor-of-science-degree-core-curriculum/)		
Required Courses		
MATH 2640	Calculus and Analytic Geometry I	4
MATH 2740	Calculus and Analytic Geometry II	4
MATH 2840	Calculus and Analytic Geometry III	4
MATH 3630	Differential Equations I	3
MATH 4030	Statistical Methods with Applications	3
CHEMSTRY 1450	Chemistry for Engineers	5
PHYSICS 2240	General Physics I	4
PHYSICS 2340	General Physics II	4
GENENG 1030	Introduction to Engineering Projects	1
GENENG 2030	Engineering Modeling and Design	3
GENENG 2130	Engineering Mechanics-Statics	3
GENENG 2230	Engineering Mechanics-Dynamics	3
GENENG 2340	Mechanics of Materials	4
GENENG 2820	Engineering Economy	2
GENENG 2930	Applications of Electrical Engineering (Required Courses)	3

Professional Engineering Courses [1]

Course	Title	Credits
MECHENG 2630	Thermodynamics	3
MECHENG 3030	Mechanical Vibrations	3
MECHENG 3040	Engineering Materials	3
MECHENG 3230	Manufacturing Processes	3
MECHENG 3300	Fluid Dynamics	3
MECHENG 3330	Design of Machine Elements	3
MECHENG 3430	Introduction to Computational Methods	3
MECHENG 3640	Heat Transfer	3
MECHENG 3720	Measurements and Instrumentation Laboratory	3
MECHENG 3830	Mechanisms and Machines	3
MECHENG 4330	Automatic Controls	3
MECHENG 4720	Thermal Systems Laboratory	2
MECHENG 4730	Thermo-Fluid Systems Design	3
MECHENG 4930	Senior Design Project	3

Practical Experience

Select one additional course from the following or one additional Mechanical Engineering Technical Elective course (minimum 2.0 G.P.A. required):

Course	Title	Credits
MECHENG 3950	Mechanical Engineering Cooperative Education	2
MECHENG 3970	Mechanical Engineering Internship	1
MECHENG 4940	Undergraduate Research	2-3

Emphasis Requirements:

- At least 13 credits from courses listed below are needed to satisfy the emphasis.
- Students must take 4 of the classes (12 credits) listed in Category I and II below. If any three of them are approved technical electives, they will double count towards graduation in Mechanical Engineering.
- In addition, at least one credit earned through an internship or coop will be required. This will be counted towards graduation in Mechanical Engineering.
- Students must choose at least one class from the following from Category I.a and I.b:

Manufacturing and Design (Category I.a):

Course	Title	Credits
MECHENG 4820	Advanced Manufacturing Processes	3
INDSTENG 4430	Quality Engineering	3
INDSTENG 4830	Engineering Continuous Improvement	3

- Students could choose not more than one of the following from Category I.b.

Manufacturing and Design (Category I.b)

Course	Title	Credits
AETM 3160	Machining and CNC Programming	3
AETM 3480	Metalcasting Processes	3
AETM 4450	Hot Metal Processing	3
AETM 4490	Metalcasting Design	3
AETM 4800	Mold Design and Production	3
AETM 4850	Plastics Processing I	3
AETM 4860	Plastics Processing II	3

- Students must choose at least one class from the following Category II

Manufacturing and Design (Category II)

Course	Title	Credits
MECHENG 4430	Advanced Materials	3
MECHENG 4440	Failure of Materials	3
MECHENG 4450	Composite Materials	3
MECHENG 4740	Mechanical Systems Design	3
MECHENG 4800	Finite Element Method	3
MECHENG 4850	Computer-Aided Engineering	3

- Additional Technical Electives to be developed that would fit into this emphasis:

Course	Title	Credits
MECHENG 4940	Undergraduate Research	2-3
Total Credits		**130**

[1] A minimum 2.0 G.P.A. required in Professional Engineering courses.

All courses required by the Mechanical Engineering B.S. offered by the College of EMS in the 1000, 2000, and 3000-level must be completed with a grade of "C-" or better