

State University of New York at Binghamton
Thomas J. Watson School of Engineering and Applied Science
BS in Mechanical Engineering-Four-Year Program

Application Curriculum Code: 0268 (If undecided use: 0229)

FALL 2012

ENGINEERING DESIGN DIVISION

(The freshman year is common to all engineering majors)

<u>Fall</u>		<u>Spring</u>	
Math 221	Calculus I	Math 222	Calculus II (Math 221)
Chem 111	Chemical Principles (w/lab)	Phys 131	General Physics I (w/lab) (Math 221)
WTSN 111	Exploring Engineering I	WTSN 112	Exploring Engineering II (J) (WTSN 111)
WTSN 103	Engineering Communications I	WTSN 104	Engr Communications II (WTSN 103)
General Education Elective (G)		General Education Elective (P)	
Body Wellness		Body Wellness	

Final three years of Mechanical Engineering Major

Pre-requisites shown in parentheses.

Year 2

<u>Fall</u>		<u>Spring</u>	
Math 371	Ordinary Diff. Eqns. (Math 222)	Math 323	Calculus III (Math 222)
Phys 132	General Physics II (w/lab) (Phys 131)	ME 211	Solid Mechanics (ME 273)
ME 212	ME Programming (WTSN 112)	ME 274	Dynamics (ME 273)
ME 273	Statics (Phys 131)	EECE 260	Circuits (w/lab) (Phys 132)
General Education Elective (A)		General Education Elective (N)	

Year 3

<u>Fall</u>		<u>Spring</u>	
ME 302	Engr. Analysis (Math 323 & 371)	ME 351	Fluid Mechanics (ME 302, 331)
ME 331	Thermodynamics (Math 323 & 371, Phys 131)	ME 372	Engr. Project Mgmt (WTSN 112)
ME 362	Materials Science (w/lab) (Chem 111, Phys 132)	ME 391	Measurements & Instrumentation (w/lab) (EECE 260; Math 371)
ME 381	Computer-Aided Engr. (w/lab) (ME 211, 274)	ME 392	Mechanical Engr. Design (ME 362, 381)
Elective*		General Education Elective (H)	

Year 4

<u>Fall</u>		<u>Spring</u>	
ME 493	Senior Project I (ME 391, 392, 372, 351; Co: ME 421, 441)	ME 494	Senior Project II (J) (ME 493)
ME 403	Computational Meth. (ME 212, 302)	ME 424	Control Systems in ME (ME 421)
ME 421	Mech. Vibrations (ME 274, 302)	Technical Elective*	
ME 441	Heat Transfer (ME 331, 351)	Technical Elective*	
Technical Elective*		Elective*	

*Department-approved electives allow students to tailor their program to pursue individual interests.

Mechanical Engineering

Mechanical engineering plays a critical role in the research, development and design of nearly every product. The Watson School's BSME program is designed to prepare the student for a wide range of exciting employment possibilities. Graduates from our program have been highly successful in establishing careers in a diverse range of industries and highly regarded companies. They may go to work for major automobile manufacturers, aerospace companies, leading manufacturers of high-technology electronic products, healthcare providers or a wide range of smaller firms. While most of our graduates enter the high-technology workforce immediately after graduation, a large number have been very successful in pursuing graduate degrees.

Our curriculum offers a balance among theory, design and laboratory experience in the areas of thermofluids, mechanics, dynamic systems, design and materials. Applications involving modern computer analysis and design tools are an integral part of the program.

We emphasize the application of engineering fundamentals, along with a degree of specialization in the senior year. Graduates from the program are prepared for creative careers based on a thorough grounding in the fundamentals and skills used by the mechanical engineer, ready to keep learning wherever their careers take them.

Our curriculum is excellent preparation for graduate studies. For qualified undergraduates, we offer an accelerated five-year program that leads to both a BS and MS degree in mechanical engineering or a five-year program leading to a BS in mechanical engineering and a MBA degree from the School of Management.

For more information on the Web, visit:

<http://www.me.binghamton.edu>.