

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 2014

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 Intro to Engineering Design	WTSN 112 Intro to Engineering Analysis (WTSN 111)
WTSN 103 Engineering Communications I	WTSN 104 Engr Communications II (C) (WTSN 103)
General Education Elective (G, P, A, N, H)	General Education Elective (G, P, A, N, H)
Body Wellness (Y, S, B)	Body Wellness (Y, S, B)

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 w/ min. C-)
ME 212 ME Programming (WTSN 112)	ME 274 Dynamics (ME 273 w/ min. C-)
ME 273 Statics (Phys 131)	EECE 260 Circuits (w/lab) (Phys 132)
General Education Elective (G, P, A, N, H)	General Education Elective (G, P, A, N, H)

Year 3

<u>Fall</u>	<u>Spring</u>
ME 302 Engr. Analysis (Math 323, Math 371)	ME 351 Fluid Mechanics (ME 302, 331)
ME 331 Thermodynamics (Math 323, Math 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 (G, P, A, N, 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 (O) (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 technical electives must be on the pre-approved list of courses. At least one of the three technical elective courses must be a ME department course.

**These open 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>.

4/18/13