

**B.S. in Physics/M.S. in Mechanical Engineering Sample Program
(Minimum 142 cr. required)**

FRESHMAN YEAR

First Semester

CHEM C105 Principles of Chemistry I	3
CHEM C125 Experimental Chemistry I	2
MATH 165 Analytic Geometry and Calculus I	4
MATH 171 Multidimensional Mathematics	3
SCI I120 Windows on Science	1
ENG W131 Elementary Composition I	3
Total	16

Second Semester

PHYS 152 Mechanics	4
CHEM C106 Principles of Chemistry II	3
CHEM C126 Experimental Chemistry II	2
MATH 166 Analytic Geometry and Calculus II	4
Second composition course	3
Total	16

Summer Term

Two courses from Lists H, S, or C	6
Total	6

SOPHOMORE YEAR

Third Semester

PHYS 251 Heat, Electricity, and Optics	5
MATH 261 Multivariate Calculus	4
CSCI Course	4
HIST H114 History of Western Civilization II	3
Total	16

Fourth Semester

PHYS 330 Intermediate Electricity and Magnetism	3
PHYS 342 Modern Physics	3
PHYS 353 Electronics Laboratory	2
MATH 266 Ordinary Differential Equations	3
COMM R110 Fundamentals of Speech Communication	3
Elective	3
Total	17

Summer Term

One course from Lists H, S, or C	3
Total	3

JUNIOR YEAR

Fifth Semester

PHYS 310 Intermediate Mechanics	4
ME 272 Mechanics of Materials	4
ME 330 Modeling and Analysis of Dynamic Systems	3
Physical or biological science elective	5
Total	16

Sixth Semester

PHYS 416 Thermal Physics	3
ME 462 Engineering Design	4
MATH Course	3
Physical or biological science elective	3
General education elective	3
Total	16

SENIOR YEAR

Seventh Semester

ME 500-level ME primary area course	3
Elective: 400 or 500 level Engineering or Physics	3
<u>MATH 537 Applied Mathematics for Sci. & Eng. I</u>	<u>3</u>
Total	9

Eighth Semester

ME 500-level ME primary area course	3
Elective: 400 or 500 level Engineering or Physics	3
<u>MATH 528 Advanced Mathematics for Eng. & Phys. II</u>	<u>3</u>
Total	9

FIFTH YEAR

Ninth Semester

PHYS 550 Introduction to Quantum Mechanics	3
ME 500-level ME primary area course	3
<u>ME 500-level ME primary area course</u>	<u>3</u>
Total	9

Tenth Semester

ME 698 (thesis option) or ME 500-level ME primary/related area course	3
ME 698 (thesis option) or ME 500-level ME primary/related area course	3
Science elective: Graduate PHYS or MATH course	3
CAND 991 Candidate for Graduation (with B.S. in Physics)	0
<u>CAND 991 Candidate for Graduation (with M.S. in ME)</u>	<u>0</u>
Total	9

Science electives (5th and 6th semesters) may be replaced by engineering courses with departmental approval.

Consult the *Department of Mechanical Engineering Master's Program Handbook* for ME primary and related courses.

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