# U College of Engineering

# Mechanical Engineering – 2018

Undergraduate Program Planning Sheet





#### REQUIREMENTS

Mechanical Engineering majors are required to complete a minimum of 136 credits as detailed on the Program Planning Sheet on the other side of this form.

## **GENERAL EDUCATION COURSES**

For a list of specific courses that satisfy the Social Science, Humanities, and the General Education Elective, please go to the College of Engineering Undergraduate Requirements website at: <u>http://www.bu.edu/eng/current-students/ugrad/requirements/</u>.

#### NATURAL SCIENCE ELECTIVE

The Natural Science Elective for Mechanical Engineering majors can be satisfied by:

- Anthropology (AN) CAS AN 102 Human Biology, Behavior, and Evolution
- Astronomy (AS) Any 200-level or higher course -or- any 100-level course that includes a lab.
- Biology (BI) Any 200-level or higher course -or- any 100-level course that includes a lab.
- Chemistry (CH) Any 200-level or higher course with a lab
  - Earth Science (ES) Any 300-level or higher course. Also the following:

Latti Science (LS) – Any Sob-level of higher course. Als	o the following.		
CAS ES 101 - Dynamic Earth	CAS ES 140 - Earthquakes, Volcanoes, Natural Disasters		CAS ES 144 - Oceanography
CAS ES 105 - Environmental Earth Science	CAS ES 142 - Intro Beach & Shoreline Processes		CAS ES 222 - Mineralogy
The following GE courses:			
CAS GE 101 - Natural Environ: Atmosphere	CAS GE 310 - Climate & the Environment	CAS GE 448 - Remote Sensing of Vegetation	
CAS GE 104 - Natural Environ: Phys Landscape	CAS GE 365 - Intro Geo Info Systems	CAS GE 456 - Terrestrial Ecosystem & Carbon Cycle	
CAS GE 110 - Our Changing Planet	CAS GE 375 - Intro Quant Environ Models	CAS GE 483 - Geod	ynamics II: Fluids & Transport
CAS GE 302 - Remote Sensing of the Environ	CAS GE 440 - Dig Image Proc & Remote Sensing		
CAS GE 307 - Biogeography	CAS GE 445 - Phys Models in Remote Sensir	g	
AL (NE)			

- Neuroscience (NE) all
- Physics (PY) Any 300-level or higher course. Also, CAS PY 231 The Physics of Music

# ADVANCED ELECTIVES

Mechanical Engineering majors complete 4 Advanced Elective courses. Acceptable courses include **all engineering (ENG) courses 300 level or above** including ENG ME 452 and ENG ME 457, as long as there is not significant overlap with other courses being used for the degree (See **Notes** below). Acceptable courses outside of ENG include:

CAS AS 414 - Solar and Space Physics

SMG SI 480 – The Business of Technology Innovation SMG SI 482 – Technology and its Commercialization

Additionally other 300-level or above Mathematics and Natural Science courses may be acceptable by petition.

#### **DEGREE ENHANCEMENTS**

# CONCENTRATIONS

Students majoring in Mechanical Engineering may choose to add a Concentration in *Aerospace Engineering, Manufacturing Engineering, Energy Technologies, Nanotechnology* or *Technology innovation*. A concentration requires 4 courses which can usually be used to satisfy Advanced Elective requirements (and in some cases General Education requirements). Hence, a concentration can usually be completed without requiring additional coursework. For information on concentrations go to: <u>http://www.bu.edu/eng/academics/programs/concentrations/</u>.

# MINORS

Students may choose to add a minor in any one of the other degree programs or divisions (*Materials Science & Engineering or Systems Engineering*) within the College of Engineering. A minor consists of 5 courses, 2 of which may also be used to satisfy requirements for the major. Completing a Minor will add a minimum of 12 credits to the total for the degree. More information on minors and the specific requirements for each can at <a href="http://www.bu.edu/eng/academics/programs/minors/">http://www.bu.edu/eng/academics/programs/minors/</a>. Students may also pursue minors in other Colleges at Boston University. For more information, please contact the College of the minor.

# **DOUBLE MAJORS**

Students may earn two engineering BS degrees. Double majors require a minimum of 162 credits and students must fulfill the requirements for each of the degree programs.

See http://www.bu.edu/eng/academics/special-programs/ for more details.

## **OTHER WAYS TO ENHANCE YOUR DEGREE**

Students have several additional options available to them including study abroad, research, and co-op/internship opportunities. For more information on

these programs, please visit the College of Engineering Undergraduate website: http://www.bu.edu/eng/academics/.

# Notes:

For the following 9 sets of courses, only 1 course can be taken for credit in each set due to the overlap of material:

- (1) ENG ME 305, ENG BE 420
- (2) ENG ME 403, ENG ME 404, ENG BE 402, ENG EC 402 (3) ENG ME 303, ENG BE 436
- (4) ENG ME 441, ENG ME 515
- (5) ENG ME 501, ENG EC 501
- (6) ENG EK 102, CAS MA 142, CAS MA 242
- (7) ENG BE 401, ENG EC 401
- (8) ENG ME 366, ENG EC 381, ENG BE 200, ENG EK 500 (9) ENG ME 359, ENG ME 407