

MECHANICAL ENGINEERING

BACHELOR OF SCIENCE

DEPARTMENT OF MECHANICAL ENGINEERING

HOWARD
UNIVERSITY

4-YEAR ADVISING SCHEME

Students seeking the Bachelor of Science in Mechanical Engineering must complete a minimum of 120 credit hours comprised of core courses in mechanical engineering (53 credits), science, engineering, and mathematics courses (37 credits), technical electives (6 credits), free electives (3 credits), social science and humanities courses (12 credits), including an African American Studies elective (3 credits), and general curriculum courses (7 credits).

FALL SEMESTER 1

Number	Course Title	Credits
ENGW ---	English First-Year Writing (I)	3
MATH 156	Calculus I	4
CHEM 003	General Chemistry I Lecture	4
EGPP 101	Intro to Engineering	2
HHPL ---	Physical Education	1
Total Credits		14

SPRING SEMESTER 1

Number	Course Title	Credits
ENGW ---	English First-Year Writing (2)	3
MATH 157	Calculus II	4
PHYS 013	Physics I Lecture (Science and Engineering)	3
PHYS 023	Physics I Lab (Science and Engineering)	1
MEEG 103	Intro to Computer Aided Design	2
ECON 001	Economics I	3
Total Credits		16

FALL SEMESTER 2

Number	Course Title	Credits
--	Humanities Elective	3
MATH 158	Calculus III	4
PHYS 014	Physics II Lecture (Science and Engineering)	3
PHYS 024	Physics II Lab (Science and Engineering)	1
MEEG 207	Intro to Engineering Computations	3
CIEG 202	Statics	3
Total Credits		17

SPRING SEMESTER 2

Number	Course Title	Credits
MATH 159	Differential Equations	4
CIEG 302	Dynamics	3
MEEG 204	Solid Mechanics	3
MEEG 206	Solid Mechanics Lab	1
EECE 310	Principles of Electronics	2
MEEG 209	Materials Science	3
Total Credits		16

FALL SEMESTER 3

Number	Course Title	Credits
MEEG 304	Thermodynamics	3
MEEG 307	Fluid Mechanics	3
MEEG 310	Mechanical Design I	3
MEEG 319	Manufacturing	3
MATH 189	Probability and Statistics	3
Total Credits		15

SPRING SEMESTER 3

Number	Course Title	Credits
MEEG 301	Systems Dynamics	3
MEEG 306	Applied Thermodynamics	3
MEEG 311	Mechanical Design II	3
MEEG 316	Instrumentation and Experimentation	2
MEEG 320	Fluid Mechanics II	3
MEEG 350	Computer Aided Engineering	3
Total Credits		17

FALL SEMESTER 4

Number	Course Title	Credits
MEEG 403	Heat Transfer	3
MEEG 423	Thermal/Fluid Science Lab	1
MEEG 441	Senior Project I	3
MEEG ---	MEEG Tech Elective (Same Discipline)	3
--	Afro American Studies Elective	3
Total Credits		13

SPRING SEMESTER 4

Number	Course Title	Credits
MEEG ---	MEEG Tech Elective	3
--	Social Science Elective	3
MEEG 442	Senior Project II	3
MEEG ---	MEEG Tech Elective (Same Discipline)	3
Total Credits		12

Total Credits: 120

More Information :

The 4-Year Advising Scheme is a guide for students to successfully complete the program in four years of study. It is not a substitution for academic advising. Students are expected to check-in with their academic advisor every semester.

The prerequisite structure for courses and technical elective options are available in the program handbook.

Courses may not be offered in semesters in which they do not appear listed on the scheme.

DEPARTMENT OF MECHANICAL ENGINEERING

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PREREQUISITES

Some courses in the curriculum have prerequisites that must be satisfied before being permitted to enroll in that course or a co-requisite that must be taken at the same time as that course. Below are courses within the **Mechanical Engineering** curriculum that have a prerequisite and/or co-requisite. Contact your academic advisor to address prerequisite or co-requisite error messages that may appear when registering for a course.

CORE COURSES

Course Number/ Title /Credits	Prerequisite / Co-requisite
CIEG 202 Statics (3)	PHYS 013 (3) and MATH 157 (4)
CIEG 302 Dynamics (3)	CIEG 202 (3)
EECE 310 Principles of Electronics (2)	PHYS 014 (3)
MEEG 204 Solid Mechanics (3)	CIEG 202 (3) / MEEG 206 (1)
MEEG 206 Solid Mechanics Lab (1)	PHYS 013 (3), PHYS 023 (1), and CIEG 202 (3)
MEEG 207 Intro to Engineering Computations (3)	PHYS 013 (3) and MATH 157 (4)
MEEG 209 Materials Science (3)	CHEM 003 (4), PHYS 014 (3), and MATH 158 (4)
MEEG 301 Systems Dynamics (3)	MATH 159 (4), CIEG 302 (3), and MEEG 207 (3)
MEEG 304 Thermodynamics (3)	PHYS 014 (3) and MATH 158 (4) / MEEG 307 (3)
MEEG 306 Applied Thermodynamics (3)	MEEG 304 (3) and MEEG 307 (3)
MEEG 307 Fluid Mechanics (3)	MATH 158 (4), MATH 159 (4), and CIEG 302 (3)
MEEG 310 Mechanical Design I (3)	MEEG 204 (3) and MEEG 209 (3)
MEEG 311 Mechanical Design II (3)	MEEG 310 (3)
MEEG 316 Instrumentation and Experimentation (2)	EECE 310 (2) and MATH 159 (4)
MEEG 319 Manufacturing (3)	MEEG 204 (3) and MEEG 209 (3)
MEEG 320 Fluid Mechanics II (3)	MEEG 307 (3) / MEEG 350 (3)
MEEG 350 Computer Aided Engineering (3)	MEEG 103 (2), MEEG 204 (3), and MEEG 307 (3)
MEEG 403 Heat Transfer (3)	MEEG 306 (3), MEEG 320 (3), and MEEG 350 (3)
MEEG 423 Thermal/Fluid Science Lab (1)	MEEG 307 (3) / MEEG 403 (3)
MEEG 441 Senior Project I (3)	MEEG 311 (3), MEEG 306 (3), and MEEG 320 (3) / MEEG 403 (3)
MEEG 442 Senior Project II (3)	MEEG 441 (3)

MATH COURSES

Course Number/Title/Credits	Prerequisite
MATH 156 Calculus I (4)	Math Placement Score or earned credit for MATH 007 - Pre-Calculus (4)
MATH 157 Calculus II (4)	MATH 156 (4)
MATH 158 Calculus III (4)	MATH 157 (4)
MATH 159 Differential Equations (4)	MATH 157 (4)
MATH 189 Probability and Statistics I (3)	MATH 158 (4)

ENGLISH COURSES

Course Number/Title/Credits	Prerequisite
ENGW 101/102/104 English First-Year Writing (3)	English Placement Score or ACTE/SATW
ENGW 103/105 English First-Year Writing (3)	"C" or better in ENGW 101/102/104 (3)

SCIENCE COURSES

Course Number/Title/Credits	Prerequisite
PHYS 013 Physics for Science and Engineering I (3)	-- / MATH 156 (4)
PHYS 023 Physics for Science and Engineering I Lab (1)	-- / MATH 156 (4)
PHYS 014 Physics for Science and Engineering II (3)	PHYS 013 (4) / MATH 157 (4)
PHYS 024 Physics for Science and Engineering II Lab (1)	PHYS 013 (4) / MATH 157 (4)