

BME M.S./M.Eng Program Curriculum

FALL Year 1

16:125:xxx	BME Core Course (3cr)
16:125:xxx	BME Core Course (3cr)*
16:125:xxx	Bioengineering Elective (3cr)
16:125:501	Mathematical Modeling for BME (3cr)
16:125:601	Engineering Ethics/Seminar(1cr)
BME Seminars	(attendance required)

Advisor Selection Forms (December through June)

SPRING Year 1

16:125:xxx	BME Core Course (3cr)
16:125:xxx	BME Core Course (3cr)*
16:125:xxx	Bioengineering Elective (3cr)
16:125:586	Structure and Dynamics in Adult and Stem Cell Biology (3cr)
16:125:602	Engineering Writing/Seminar (1cr)
BME Seminars	(attendance required)

FALL & SPRING Year 2

16:125:xxx	Bioengineering Elective (3cr)
16:125:xxx	Bioengineering Elective (3cr) (As Needed)
16:125:628	Clinical Practicum (1cr)
16:125:701/702	Research (3cr/3cr)
16:125:699	Non-Thesis Study (3cr) (M.Eng Only)
BME Seminars	(attendance required)

BME Core Courses

Must take 3 out of 5:

1)	16:125:561	BioImaging Methods (3cr)
2)	16:125:571	Biosignal Processing and Biomedical Imaging (3cr)
3)	16:125:572	Biocontrol, Modeling and Computation (3cr)
4)	16:125:573	Kinetics, Thermodynamics and Transport in Biomedicine (3cr)
5)	16:125:574	Biomechanics and Biomaterials (3cr)

Physiology

Students **must** have taken an UG level Physiology course previously or the following course must be taken.

1)	16:125:581	Mammalian Physiology (online course-3cr)
<u>OR</u>	Other Rutgers or RWJMS Physiology Courses – Contact the Graduate Program for information	

Advanced Engineering Mathematics[^]

1)	16:125:501	Mathematical Modeling for BME (3cr)
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[^]Students may be asked to complete an alternate graduate-level math course based on need or availability. Students wishing to take an alternate math class should petition the graduate program director.

Advanced Cell Biology

1)	16:125:586	Structure and Dynamics in Adult and Stem Cell Biology (3cr)
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Professional Developmental Courses **Must take 1, 2 and 5...3&4 are optional**

1)	16:125:601	Engineering Ethics and Seminar (1cr)
2)	16:125:602	Engineering Writing and Seminar (1cr)
3)	16:125:607	Preparing Future Faculty I (1cr)
4)	16:125:608	Preparing Future Faculty II (1cr)
5)	16:125:628	Clinical Practicum (1cr)

Summary of Minimum M.S./M.Eng Requirements

3 out of 5 BME Core Courses	9 credits
Advanced Engineering Math Course	3 credits
Advanced Cell Biology Course	3 credits
3 Bioengineering Electives (4 if M.Eng)	9 credits (12 credits if M.Eng)
3 out of 5 Professional Developmental Courses	3 credits
Research (M.S. ONLY)	6 credits
Non-Thesis Study (M.Eng ONLY)	3 credits (MUST take an additional 3 credit elective)
Total	33 credits

* If schedule allows, take up to two core classes per semester. Minimum of three core classes required.