

BME Undergraduate Program Flyer

Department of
Biomedical Engineering
<http://www.bme.wisc.edu>



<http://facebook.com/uwbme>



BME Department Home:
Engineering Centers Building
1550 Engineering Drive

Engineering Academic
Advising

[https://www.engr.wisc.edu/academics/
undergraduate-academics/](https://www.engr.wisc.edu/academics/undergraduate-academics/)
coeadvising@wisc.edu

International Engineering
Studies & Programs

<http://international.engr.wisc.edu/>

Engineering Career Services

<https://ecs.engr.wisc.edu/>

Get involved with UW-BMES
Student Chapter



Biomedical
Engineering
Society
UW-MADISON

<http://bmes.sl.cengr.wisc.edu/>



DEPARTMENT OF
Biomedical Engineering
UNIVERSITY OF WISCONSIN-MADISON

Engineering biology to impact you:
Bringing the Wisconsin Idea to life through innovation!

What is Biomedical Engineering (BME)?

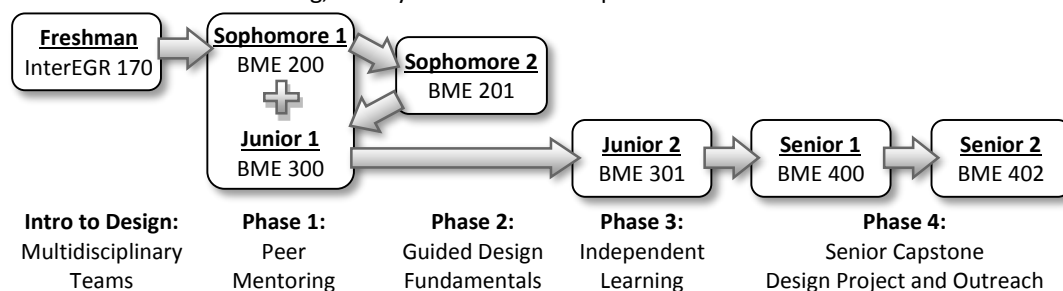
It is the use of engineering tools to analyze and solve problems in biology and medicine. It is the design of new medical instruments, devices, software, therapies or procedures and it is highly multidisciplinary.

Key Features of UW-BME:

- Design throughout the curriculum
- Emphasis on hands-on learning (laboratories in all core courses)
- Premed courses are built into the curriculum (two options available)
 - Flexibility for and recommend co-ops, internships and abroad
- Very active student BMES provides opportunities outside the classroom
- Research opportunities and Honors in research (can count up to 3 credits)
 - Department offers one-year M.S. degree option

Design Throughout the Curriculum

Teams of 4-6 students work on real-world, client-based design projects every semester with close advising, faculty mentors advise up to four teams each.



Student project webpages: <http://bmedesign.engr.wisc.edu/>

UW-BME Area Specializations (Students Select One)

1. Bioinstrumentation and medical devices (related to ECE)
2. Biomedical imaging and optics (related to ECE, CS, Medical Physics)
3. Biomechanics (related to ME)
4. Biomaterials, cellular and tissue engineering (related to CBE and MS&E)

After Graduation with a B.S. in BME Alums have gone to:

Graduate Program (PhD) ~ 22%
Graduate Program (MS or other) ~23%
Medical School (MD) ~ 15%
Biomedical Industry ~ 40%

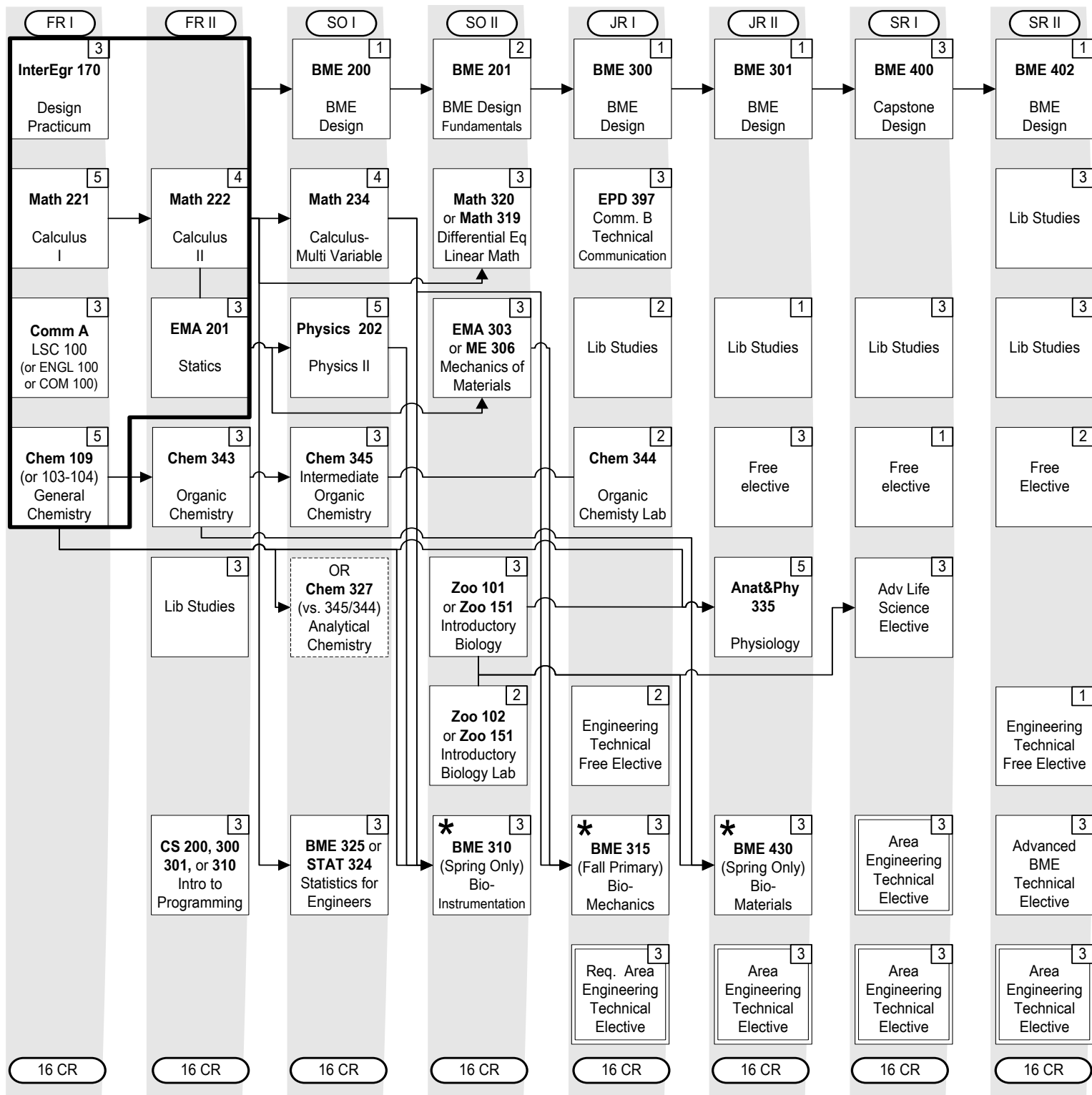
Admissions to the BME Department

Freshman are directly admitted into the department. To apply, be considered, or continue within BME, students must complete the GCR or General College Requirement, as well as the BME GPA requirements during their first year, see:

<http://progression.engr.wisc.edu>

B.S. Biomedical Engineering Curriculum Flowchart – General

(Two Premed flowchart options are available online in the complete advising book)



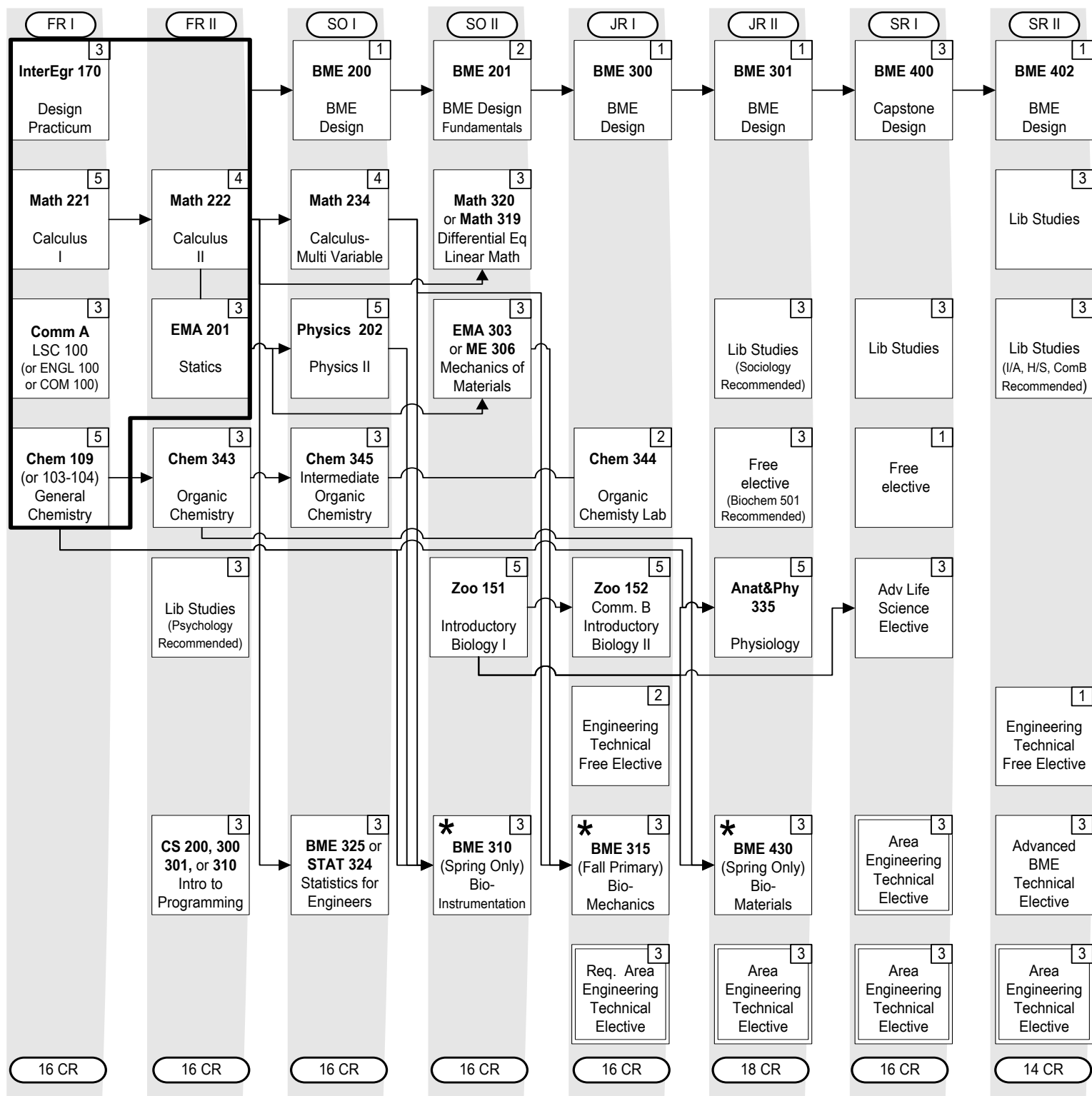
General College Requirements (GCR): To be admitted / progress into BME, the GCR must be satisfied which includes four core-courses. There are different options to fulfill the GCR courses, these are the recommended courses for BME: <http://progression.engr.wisc.edu>

Chemistry Requirement: Choose Chem 343: Organic chemistry as the pre-req for Chem 344-345: Intermediate Organic Chemistry and Lab. You may take Chem 327 or 329 Analytical chemistry instead of 344/5 in which case Chem 341 is sufficient in place of Chem 343. You may **NOT** take Chem 341 and then 344-345.

Engineering Area Technical Electives: At least 15 credits from **ONE** of the following BME tracks (including one required area elective): 1. Bioinstrumentation & Medical Devices (ECE 230-circuits), 2. Biomedical Imaging & Optics (ECE 330-signals), 3. Biomechanics (EMA 202 or ME 240-dynamics), or 4. Biomaterials, Cellular, & Tissue Engineering (BME 330-engr principles of cells, molecules, & tissues or CBE 320).

* **Required core courses:** All three core courses with labs are required. It is advisable to take them in order of interest. For example, take BME 430 first in the sophomore year if you wish to enter the biomaterials track. In this case, it is advisable to take biology sooner.

B.S in BME - Advanced Biology Flowchart (Fulfills Pre-Med Requirements)



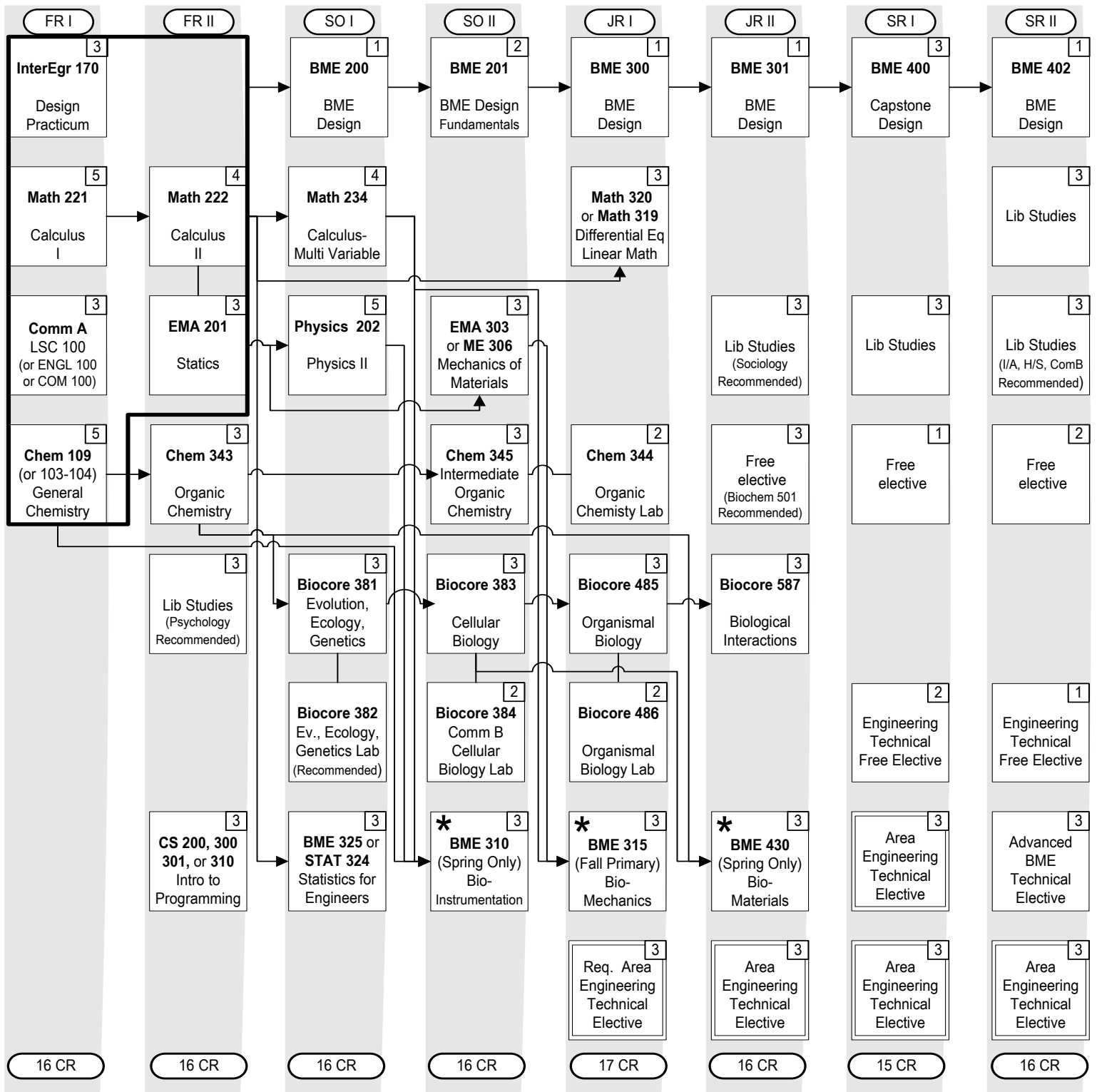
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*** Required core courses:** All three core courses with labs are required. It is advisable to take them in order of interest. For example, take BME 430 first in the sophomore year if you wish to enter the biomaterials track. In this case, it is advisable to take biology sooner.

Medical School Requirements: All pre-med and MCAT requirements are built into the curriculum by taking the courses recommended above. Note, some courses are not "required" by your BME Degree, instead free elective or liberal elective credits are notated as "recommended" such as Biochemistry 501, Psychology, and Sociology. Medical schools have specific requirements – it is recommended to identify these early.

B.S in BME - BIOCORE Honors Flowchart (Fulfills Pre-Med Requirements)



General College Requirements (GCR): To be admitted / progress into BME, the GCR must be satisfied which includes four core-courses. There are different options to fulfill the GCR courses, these are the recommended courses for BME: <http://progression.engr.wisc.edu>

Engineering Area Technical Electives: At least 15 credits from **ONE** of the following BME tracks (including one required area elective): 1. Bioinstrumentation & Medical Devices (ECE 230-circuits), 2. Biomedical Imaging & Optics (ECE 330-signals), 3. Biomechanics (EMA 202 or ME 240-dynamics), or 4. Biomaterials, Cellular, & Tissue Engineering (BME 330-engr principles of cells, molecules, & tissues or CBE 320).

*** Required core courses:** All three core courses with labs are required. It is advisable to take them in order of interest. For example, take BME 430 first in the sophomore year if you wish to enter the biomaterials track.

Medical School Requirements: All pre-med and MCAT requirements are built into the curriculum by taking the courses recommended above. Note, some courses are not "required" by your BME Degree, instead free elective or liberal elective credits are notated as "recommended" such as Biochemistry 501, Psychology, and Sociology. Medical schools have specific requirements – it is recommended to identify these early.