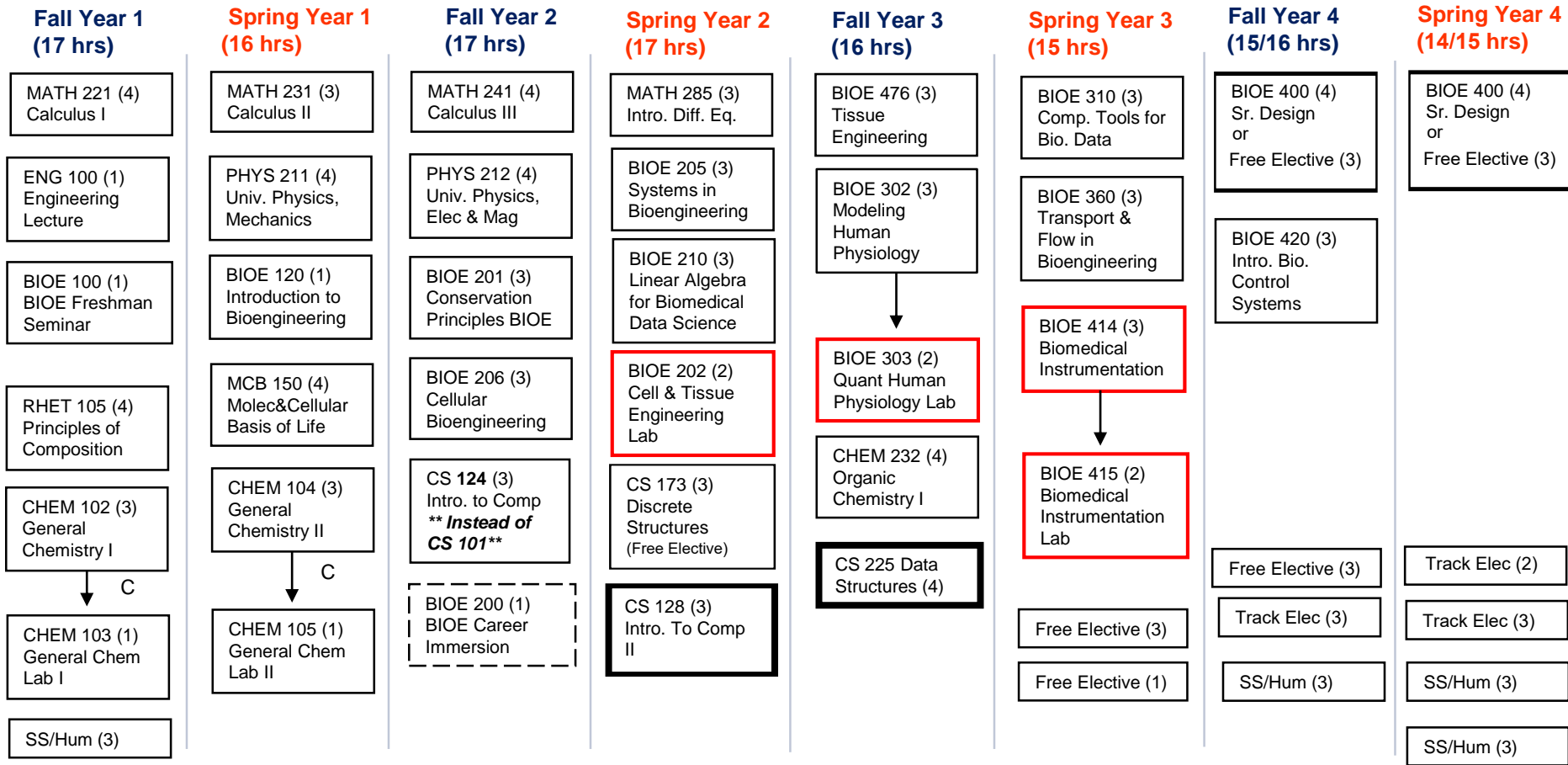


# Computation & Systems Biology Track

## Curriculum Map



**\*\* Note** – not taking courses as advised may result in a delayed graduation date. Students are responsible for any impact resulting from not following departmental advising.

**\*\* If outlined in RED then the BIOE course is offered both Fall & Spring Semesters**

**\*\*Courses with dashed line borders are not currently required as part of the Core BIOE Curriculum**

## Computation & Systems Biology Track Electives

- BIOE 430 - Intro. Synthetic Biology (3 hr)
- BIOE 483 - Biomedical Comp Imaging/Systems (3 hr)
- BIOE 484 - Stat Analysis of Biomedical Images (3 hr)
- BIOE 485 - Comp Math for Machine Learning/Imaging (4 hr)
- BIOE 486 - Applied Deep Learning for Biomedical Imaging (3 hr)
- BIOE 488 - Applied High-Performance Comp for Imaging (3 hr)
- BIOE 498 TL - Intro to Systems Bio (3 hr)
- BIOE 498 RI - Regulatory Safety Issues in Bioengineering (3 hr)
- ABE 440 - Applied Statistical Methods (4 hr)
- ECE 365 - Data Science & Engineering (3 hr)
- ECE 401 - Signal & Image Analysis (4 hr)
- ECE/NE 410 - Neural Circuits & Systems (3 hr)
- ECE 490 - Intro to Optimization (3 hr)
- ECE 498 NSU - Deep Learning in Hardware (3 hr)
- SE 423 - Mechatronics (3 hr)
- IE 310 - Deterministic Models in Optimization (3 hr)
- IE 370 - Stochastic Processes & Applications (3 hr)
- NPRE 461 - Probabilistic Risk Assessment (3 hr)
- TMGT 498 TMD/TME - Tech, Eng, & Mngmt Project (4 hr)
- CS 128 - Intro to Comp II (3 hr)
- CS 225 - Data Structures (4 hr)
- CS 411 - Database Systems (3 hr)
- CS 412 - Intro to Data Mining (3 hr)
- CS 440 - Artificial Intelligence (3 hr)
- CS 444 - Deep Learning for Computer Vision (3 hr)
- CS 446 - Machine Learning (3 hr)
- CS 447 - Natural Language Processing (3 hr)
- CS 450 - Numerical Analysis (3 hr)
- CS 465 - User Interface Design (4 hr)
- CS 466 - Intro to Bioinformatics (3 hr)
- ECE 421/NE 420 - Neural Interface Engineering (3 hr)

### General Education Requirements

- 6 hours in Humanities
- 6 hours in Social/Behavioral Sciences
- 1 Advanced Composition Course
- 1 Western Comparative Cultures Course
- 1 Non-Western Comparative Cultures Course
- 1 US Minority Cultures Course
- Language Other Than English

### PreMed Requirements

- Meet with The Career Center for Premed advising
- Common Courses (*additional requirements may apply depending on school*):
  - MCB 450/354 (BioChem)
  - CHEM 233 (Orgo 1 lab)
  - Social/Behavioral Science Sequence (2-3 courses)