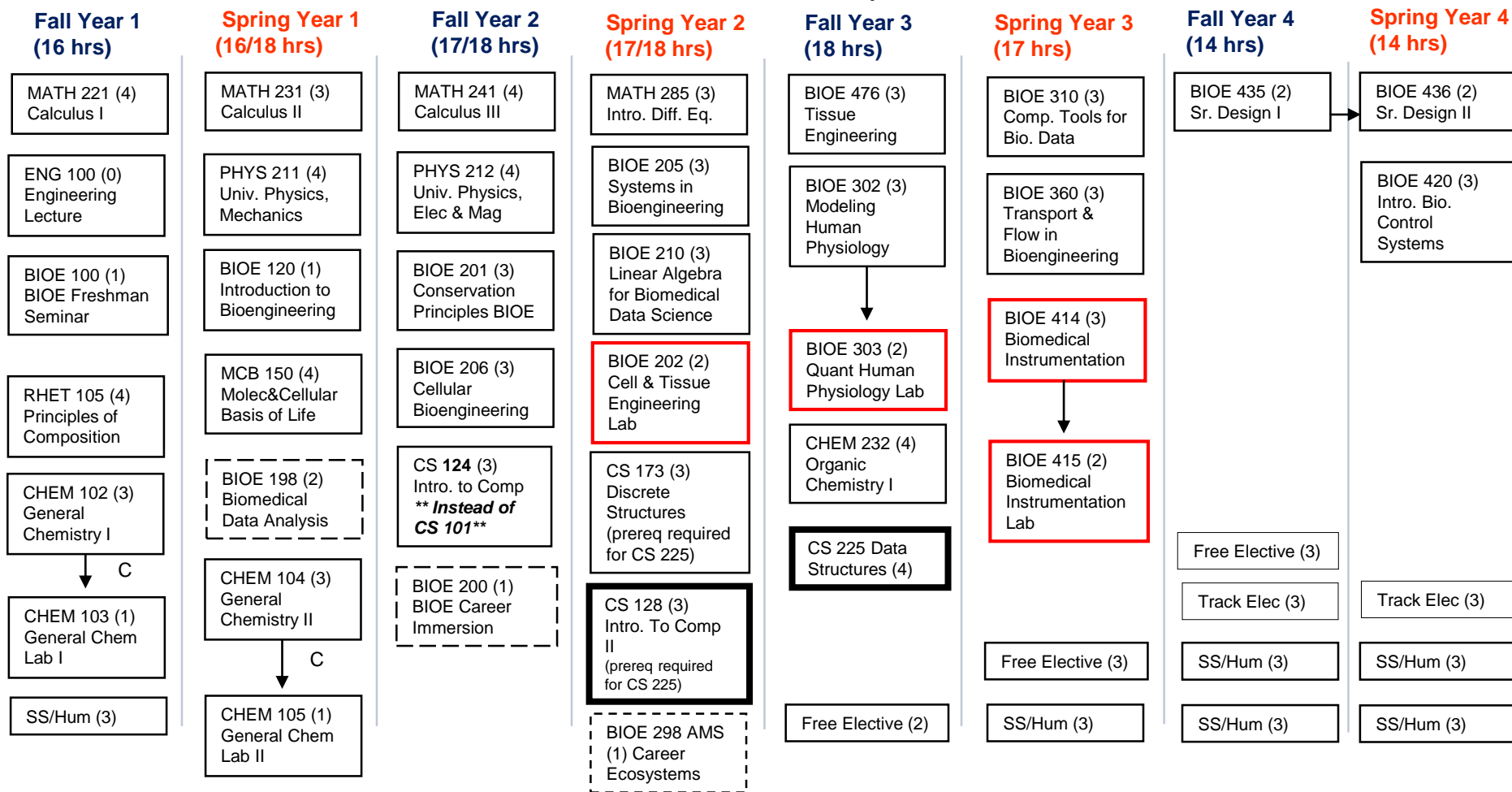


Computation & Systems Biology Track

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

- | | |
|--|---|
| <ul style="list-style-type: none"> • BIOE 430 – Intro. Synthetic Biology (3 hr) • BIOE 483 – Biomedical Computed 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 Science (3 hr) • BIOE 498 TL – Intro to Systems Bio (3 hr) • BIOE 498 PJ – Experimental Design in Automation (3 hr) • BIOE 498 RI – Regulatory Safety Issues In Bioengineering (3 hr) • ABE 440 – Applied Statistical Methods I (4 hr) • ECE 365 – Data Science & Engineering (3 hr) • ECE 401 – Signal & Image Analysis (4 hrs) • ECE 410/NE 410 - Neural Circuits & Systems (3 hrs) • ECE 490 – Introduction to Optimization (3 hr) • ECE 498 NSU – Deep Learning in Hardware (3 hr) • SE 423 – Mechatronics (3 hr) | <ul style="list-style-type: none"> • IE 310 – Deterministic Models in Optimization (3 hr) • IE 370 – Stochastic Processes and Applications (3 hr) • NPRE 461 – Probabilistic Risk Assessment (3 hr) • NPRE 498 PRA – Advanced Risk Analysis (3 hr) • TMGT 461TMD/TME – Tech, Eng, and Mngmt Project (4hr) • CS 128 – Intro to Comp. 2 (3 hr) • CS 225 – Data Structures (4 hr) • CS 398 DL – Deep Learning (3 hr) • CS 411 – Database Systems (3 hr) • CS 412 – Introduction 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 465 – User Interface Design (4 hr) • CS 466 – Introduction to Bioinformatics (3 hr) • NE 420/ECE 421 – Neural Interface Engineering (3 hr) |
|--|---|

General Education Requirements

- ☐ 6 hours in Humanities
- ☐ 6 hours in Social/Behavioral Sciences
- ☐ 6 hours in Liberal Education
- ☐ 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 (3 courses)