

2018-19 Biomolecular Engineering and Bioinformatics: Bioinformatics

Math and Statistics

- Math 3 or Math Placement of 400 or higher
Math 19A (or Math 20A)
Calculus I [F/W/Sp/Su]
- MATH 19A or 20A
Math 19B (or Math 20B)
Calculus II [F/W/Sp/Su]
- Math 19B
AMS 131
Intro to Probability Theory [F/W/Sp/Su]
- AMS 131 or CMPE 107
AMS 132
Statistical Inference [W]

Chemistry

- Previous or concurrent enrollment in MATH 3 or Math Placement score of 300 or higher
Chem 1A
General Chemistry [F/W/Sp/Su]
- **Chem 1B/M (7 units)**
General Chemistry/Lab [F/W/Sp/Su]
- CHEM 1A
Chem 1C/N (7 units)
General Chemistry/Lab [F/W/Sp/Su]
- CHEM 1B and 1C
Chem 8A
Organic Chemistry [F/W/Su]
- CHEM 8A or 108A
Chem 8B
Organic Chemistry [W/Sp/Su]

Biology and Bioengineering

- CHEM 1A
BIOL 20A
Cell & Molecular Biology [F/W/Sp/Su]
- BIOL 20A
BIOE 20B
Developmental & Physiology [F/W/Sp/Su]
- BIOL 20A and BIOE 20B
BME105 (or BIOL 105)
Genetics [Sp]

Bioinformatics

- BME 105 or BIOL105 or BIOL 100 or BIOC 100A
BME 110
Computational Biology Tools [F/W]
- BIOL 20A or 21A
BME 160/L (6 units)
Research Programming/Lab [W/Sp]
- BME 160 or 205
BME 163*
Applied Visualization and Analysis [Sp]

Biochemistry

- CHEM 8B or 108B and BIOL 20A
BIOC 100A
Biochemistry & Molecular Biology [F]

Humanities

- **BME 80G** Bioethics [F]
OR
• **BME 18** Sci Principles of Life [F]
- Previous or concurrent enrollment in BIOL 20L or 101L
BME 185
Technical Writing for Bioengineers [F]
OR
• CMPS 12B OR CMPE 12 or BME 160
CMPE185
Technical Writing [F/W/Sp]

Programming

- Math 19A or 20A
CMPE 16
Discrete Math [F/W/Sp/Su]
- Math 3 or 19A or Math Placement of 400 or higher
CMPS 12A/L % (7 units)
Intro to Programming [F/W/Sp]
- CMPS 11 or 12A or CMPE 13
CMPS 12B/M (7 units)
Data Structures/Lab [F/W/Sp/Su]
- CMPS 12B and CMPE 16 and Math 19B and either Math 21 or 22 or 23A or AMS 10 or 131
CMPS 101
Algorithms and Abstract Data Types [F/W/Sp/Su]
- CMPS 12B
CMPS 182 (Recommended)
Introduction to Database Management Systems [Sp]
- CMPS 101
CMPS 180
Database Systems I [F/W]

Elective
BIOL 115, METX 119, BIOC 100C, BME 122H, BME 128, BME 128L, BME 130, BME 132, BME 140, BME 155, BME 170, BME 177, BME 178, or 5-unit BME grad course (e.g. BME 230B)^{\$}

One of the above:

Bioinformatics Capstone

- CMPS 12B and CMPE 107 or AMS 131 and BIOL 20A and previous or concurrent enrollment in BIOC 100A
BME 205
Bioinformatics Models and Algorithms [F]
- BME 205
BME 230A
Intro. Computational Genomics and Systems Biology [W]
- BME 230A
BME 230B
Adv. Computational Genomics and Systems Biology (Not required but recommended) [Sp]

BME students may do the BINF capstone.
BINF students MUST do the BINF capstone.

2018-19 Biomolecular Engineering and Bioinformatics: Bioinformatics

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

Fall _____	Winter _____	Spring _____	Summer _____

- Denotes prerequisites and corequisites
- * The approved catalog copy for bioinformatics for 2018-19 requires Math 21 or 22 or 21A or AMS10 and does not require BME 163, but we advise replacing the math course with BME 163
- % Students may choose to take CMPS 5J and 11; or CMPE 12/L and 13/L in place of CMPS 12A/L
- \$ Not including BME 205 or BME 230A if using Bioinformatics capstone

Student Name:

Staff Advisor Signature: