

2018-19 Biomolecular Engineering and Bioinformatics: Biomolecular

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| <p>Math and Statistics</p> <ul style="list-style-type: none"> • 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] | <p>Chemistry</p> <ul style="list-style-type: none"> • 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/L Organic Chemistry / Lab [F/W/Su] • CHEM 8A or 108A Chem 8B/M Organic Chemistry / Lab [W/Sp/Su] | <p>Biology and Bioengineering</p> <ul style="list-style-type: none"> • CHEM 1A BIOL 20A Cell & Molecular Biology [F/W/Sp/Su] • BIOL 20A BIOE 20B Developmental & Physiology [F/W/Sp/Su] • BIOL 20A and previous or concurrent enrollment in BIOE 20B BIOL 20L Experimental Lab [F/W/Sp] • BIOL 20A and BIOE 20B BME105 (or BIOL 105) Genetics [Sp] | <p>Bioinformatics</p> <ul style="list-style-type: none"> • 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] |
| <p>Physics and Electronics</p> <ul style="list-style-type: none"> • Math 19A or 20A PHYS 5A/L (6 units) (or PHYS 6A/L) Intro to Physics/Lab [F/W] • Math 19A BME 51A Applied Electronics I [W] • BME 51A BME 51B Applied Electronics II [Sp] | | <p>Biochemistry</p> <ul style="list-style-type: none"> • CHEM 8B or 108B and BIOL 20A BIOC 100A Biochemistry & Molecular Biology [F] • BIOC 100A BIOC 100B Biochemistry & Molecular Biology [W] | <p>Humanities</p> <ul style="list-style-type: none"> 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] |
| <p>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)[§] <i>Cannot be same as Design Elective</i> One of the above: _____</p> | | <p>Design Elective BME 128 or BME 140 or BME 177 <i>Cannot be same as Elective</i> One of the above: _____</p> | |

One of the following capstone sequences

| Bioinformatics Capstone [#] | iGEM | Senior design | Senior thesis |
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| <ul style="list-style-type: none"> • 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] | <ul style="list-style-type: none"> • Previous or concurrent enrollment in BME 185 or CMPE 185 BME 180 (2 units) Professional Practice [Sp] | <ul style="list-style-type: none"> • BIOL 20A and 20B and BIOL 100 or BIOC 100A BME 129A Bioengineering Project I [F] | <ul style="list-style-type: none"> BME 195 Senior Thesis [F] |
| <ul style="list-style-type: none"> • BME 205 BME 230A Intro. Computational Genomics and Systems Biology [W] | <ul style="list-style-type: none"> • BME 180 and perm. of instructor BME 188A Synthetic Biology Research A [Su] | <ul style="list-style-type: none"> • BME 129A or 150 BME 129B Bioengineering Project II [W] | <ul style="list-style-type: none"> • BME 185 or CMPE 185 and concurrent enrollment in BME 195F BME 123T Thesis Presentation AND [W/Sp] BME 195F (2 units) Senior Thesis [W] |
| <ul style="list-style-type: none"> • BME 230A BME 230B Adv. Computational Genomics and Systems Biology [Sp] (Not required but recommended) | <ul style="list-style-type: none"> • BME 188A and perm. of instructor BME 188B Synthetic Biology Research B [Su] | <ul style="list-style-type: none"> • BME 129A and 129B BME 129C Bioengineering Project III [Sp] | <ul style="list-style-type: none"> BME 195 Senior Thesis [Sp] |

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- Denotes prerequisites and corequisites
- \$ Not including BME 205 or BME 230A if using Bioinformatics capstone
- # Please note that BME 205 has prerequisites not required by the Biomolecular Concentration

Student Name:

Staff Advisor Signature: