KA2

Biomedical Engineering – Example Program Map

Computational Bioengineering (AI in Medicine)

Semester 1	Chem I / Lab CHEM:1110	Engr Calc I MATH:1550	Intro Engr Prob Solving ENGR:1100	Rhetoric RHET:1030		Engr Success First Year ENGR:1000
Semester 2	Chem II / Lab CHEM:1120	Engr Calc II MATH:1560	Engr Matrix Alg MATH:2550	Physics I / Lab PHYS:1611	Intro Engr Computing ENGR:1300	BME Forum BME:1010
Semester 3	Foundations of Biology / Lab BIOL:1411	Engr Diff Equat MATH:2560	Statics ENGR:2110	Elec Circuits ENGR:2120	Comp in Engr ENGR:2730	BME Prof Seminar BME:2010
Semester 4	Fund Human Physiology HHP:2400 or BME:2260 Quantitative Physiology	Biostatistics BIOS:4120 or STAT:3510	Bioimaging & Bioinformatics / Lab BME:2210	Cell Biology for Engr / Lab BME:2400	Intro to AI & Machine Learning ENGR:3110	
Semester 5	Systems, Instrum, & Data Acquisition / Lab BME:2200	Biomaterials & Biomechanics / Lab BME:2500	Computational Biochemistry BME:4310	Intro to Software Design ECE:3330	Cultural Perspectives, Values, and Society	
Semester 6	Physics II / Lab PHYS:1612	Biochemistry BMB:3110	Approved GEC course	Computational Bioinformatics BME:5335	Be Creative	
Semester 7	BME Senior Design I BME:4910	Generative AI Tools ECE:5995	Digital Image Processing ECE:5480	Deep Learning in Medical Imaging BME:5240	Software Engr Languages & Tools ECE:5820 or Thermodynamics ENGR:2130	
Semester 8	BME Senior Design II BME:4920	Fundamental Genetics BIOL:2512	Graph Algorithms & Combinatorial Optimization ECE:5330	Approved GEC course	Approved GEC course	

- Math & Science Courses
- Required Engineering Courses
- Focus Area Required Courses
- General Education Courses
- Engineering Core Courses
- Biomedical Core Courses
- Focus Area Elective Courses
- Seminars

At least two Focus Area Electives must be from the list of Engineering Topics.

Last updated 01/27/25