

BME Programs Offering Design as Part of the Curriculum

University	Major	Degrees Offered	Key Quote (including Design)	Design-Related Courses	Number of Design Courses	Research Areas
Alfred University	Biomedical Materials Engineering Science	MS	Therefore, Alfred's BMES graduates will be uniquely qualified to address critical issues in biomedical engineering and biomedical device design and construction.	Intro to Biomaterials, Surface and Biomedical Materials	2	CE&MS Tema Project - using materials for commercial device
Arizona State	Bioengineering	BS, MS, PhD	Students are able to design systems, devices, components, processes, and experiments with an understanding of manufacturing processes to meet real-world needs for solutions to problems in the biomedical device industries, medicine, and the life sciences. Students are able to communicate effectively as bioengineers in oral, written, computer-based, and graphical forms.	Biomedical Instrumentation, Biosensor Design and Application	2	Includes Biomaterials, Biomechanics, Biosystems, Biotech, Bioinstrumentation
Binghamton University	Bioengineering	MS, PhD	An appreciation for the legal, regulatory, economic, and ethical issues inherent in the design of products and processes for the U.S. medical/healthcare industry.			Biomedical Devices
Boston University	Biomedical Engineering	BS, MS, PhD	To this end, the Biomedical Engineering program trains students who are equally comfortable with design and analysis. Design experiences begin in the introductory electric circuit theory and engineering mechanics courses and continue in the junior year, in the required electronics course and the core biomedical laboratory courses. Additional design experiences are included through the restricted electives in the junior and senior years, culminating in the two-semester senior project.	Biomedical Engineering Senior Project, Design development Marketing and Entrepreneurship in BME, Biomedical Instrument Design	3	Cardiopulmonary Engineering, Biomolecular Engineering, Bioelectrical Engineering
Brown	Biomedical Engineering	BS, MS	Electives may be drawn from a series of applied courses in biomaterials, tissue engineering, organ replacement, biotechnology, instrument design, neuroengineering, and medical instrument.	Instrument Design	1	none listed
Bucknell	Biomedical Engineering	BS	Students are required to take courses in ... instrument design	BME Capstone	1	none listed
California Polytechnic State University - San Luis Obispo	Biomedical Engineering	BS	Give students an understanding of the principles, processes and tools required for the successful design and development of dependable, biomedical engineering components and systems.	Bioengineering Design, Introduction to BME Design, Principles of Biomaterials Design	2	none listed
Cal Tech	Bioengineering	PhD	accelerating pace of discovery in biological sciences is suggesting new design principles that may have important practical applications in man-made system design.	No specific Design Course		Microfluidic Devices
Carnegie Mellon	Biomedical Engineering	BS, MS, PhD	(no design reference)	BHE Design Course	1	none listed
Case Western	Biomedical Engineering	BS, MS, PhD	Give students the ability to ... 3.Design electronic instruments useful to the medical community, 4. Understand problems presented by the medical community, and translate them into solvable engineering problems.	Biomedical Instrumentation - Devices, Electronics for Biomedical Engineering	1	1) biomaterials/tissue engineering, 2) biomedical image processing and analysis, 3) biomedical sensing, 4) cardiac bioelectricity, 5) neural engineering and neural prostheses, and 6) metabolic systems engineering
Catholic University	Bimedical Engineering	BS, MS, PhD	Our undergraduate program curriculum combines basic science, engineering, and humanities and emphasizes how these disciplines can be brought together for new discoveries and designs in the healthcare field.	BE Senior Design, Biomechanical Design, Human Computer Interfaces	3	Biomechanics and Motion Analysis, Home Care Technologies

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City University of New York	Bimedical Engineering	BS, MS, PhD	Biomedical engineering design is an important focus of the program, starting with an introduction to design in the freshman year and culminating with a senior design course that incorporates real-world problems provided by our hospital partners as well as local industry.	BME Senior Design, Biomedical Engineering Tools	2	Musculoskeletal Engineering, Medical Imaging and Biosignal Processing, Cardiovascular Engineering
Clemson University	Bioengineering	PhD, MS, Minor (BS)	Covers basic steps in designing medical devices intended for short- or long-term implantation. Materials selection, fabrication processes, performance standards, cost analysis, and design optimization are covered. Design project is required.	Biomedical Engineering Design	1	Bone Structure, Advanced Cardiovascular Materials & Engineering, Hybrid Systems, Biotechnology, etc.
Cleveland State	Applied Biomedical Engineering	PhD	(no design reference)	Medical Devices and Biomaterials	1	Biomechanics, Biomedical Imaging, Cardiovascular Bioengineering
Colorado State University	Biomedical Engineering	MS	The Depth area allows for advanced studies in biomechanics and biomaterials; molecular, cellular, and tissue engineering; and medical diagnosis, devices, and imaging.	Material issues in mechanical design	1	Biomechanics and Biomaterials, Medical Diagnostics, Devices and Imaging
Columbia University	Biomedical Engineering	BS	introduce concepts of engineering design and issues pertinent to the development of biomedical devices and systems.	Design in Biomedical Engineering	1	Biomechanics, Imaging
Cornell	Biomedical Engineering	BS (Minor), MS, PhD	The expectation of the BME graduate field is that a Ph.D. student will take two four credit modular courses on Fundamentals of BME (ENGRG 605 and 606) that introduce for advanced students molecular and cellular bioengineering, physiological systems and analysis, design, biomaterials, biomechanics (with laboratory), and instrumentation in BME.	Product Engineering and Design in Biomedical Engineering	1	Biomaterials; Biomedical Instrumentation and Diagnostics; Drug Delivery, Design, Production, and Metabolism; and Biomedical Mechanics
Dalhousie	Biomedical Engineering	Masters, Applied Science	Course will introduce students to industrially important concepts as protection of intellectual property, regulatory affairs, and new venture financing and management.	Entrepreneurship in Biomedical Engineering	1	Biomaterials/Tissue Engineering, Biomechanics/Rehabilitatio, Bioelectricity/Imaging
Drexel	Biomedical Engineering	BS, PhD	In the pre-junior and senior years, the BME curriculum also incorporates professional electives and the capstone senior design courses.	Senior Design	1	Biomaterials and Tissue Engineering, Biomechanical and Human Performance Engineering, Biomedical Systems and Imaging, Biosystems and Biomedical imaging, Neuroengineering, Bioinformatics, General Biomedical Engineering
Duke	Biomedical Engineering	BS	(no design reference)	Biomedical Device Design, Devices for the Disabled, Medical Instrument Design	2	Bioelectrical, Biomechanics, Cellular and Biosurface Engineering, Cellular and Biosurface Engineering
Florida Intl University	Biomedical Engineering	BS, MS, PhD	Professional Track: This track program is tailored for the engineer currently practicing in the biomedical industry. While the degree is structured as a non-thesis program, students will be required to conduct an industrial project. The project will include contemporary topics and trends in biomedical engineering technology development, and will require a formal report and presentation upon completion.	Design of Biomedical Systems and Devices, BME Seminar, Design and Specialty Lab	2	none listed
George Washington University	Biomedical Engineering	BS	(no design reference)	BME Seminar, Design Project and Specialty Lab	1	Bioinformatics, Telemedicine, Instrumentation, Biocomputer, Bioelectrical and Biomaterials, Biomechanics, Premedicine

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Georgia Tech	Biomedical Engineering	BS, Minor, PhD	BME graduates need to be able to apply engineering concepts, mathematics, analysis and design to life science problems.	Senior Design Project	1	Cardiovascular Mechanics and Biology, Cellular and Tissue Engineering, Neurosciences/Engineering, Biomedical Imaging, Biomedical Modeling and Computing
Illinois Institute of Tech	Biomedical Engineering	BS	In addition, elements of bioengineering design will be incorporated at every level in the curricula. This will be accomplished by the design and conduct of laboratory experimentation, the use of computer techniques in the formulation and application of theoretical approaches to problem-solving, and exposure to real biomedical engineering problems throughout the program.	Design Concepts in Biomedical Engineering	1	Medical Imaging, Neural Engineering, Cell and Tissue Engineering
Indiana University-Purdue	Biomedical Engineering	BS	It could be accurately characterized as having a base in systems physiology and the design of therapeutic or diagnostic medical devices as applied to gross organ function	Biomedical Engineering Design, Biomedical Device Manufacturing, Biomedical Sensors and Implantable Devices	2	none listed
Johns Hopkins	Biomedical Engineering	BS, MS, PhD	(no design reference)	Biomedical Engineering Design Team-Freshman, Biomedical Engineering Design Team-Sophomore, Principles of the Design of Biomedical Instrumenta, Senior Design	4	Biochemical, Bioelectrical, Biomaterials, Biomechanics, Biocomputer Engineering, Biocomputer Science
Louisiana Tech	Bimedical Engineering	BS, MS, PhD	(no design reference)	Senior Design	1	Microdevices and Microsensors, Rehabilitation Engineering, Neural Engineering, Cardiovascular Engineering, Signal Processing and Instrumentation, Tissue Engineering and Materials
Marquette University	Biomedical Engineering	BS, MS, PhD	The senior year includes a year-long engineering design sequence, and a senior lab sequence that is customized for each of the majors	Principles of Design, Senior Design Project, Biomedical Instrumentation Design	3	Bioelectrical, Biomechanics, Biocomputing
MIT	Bioengineering	BS, MS, PhD	Finally, one Biomedical Engineering Restricted Elective is required, either from the Core list or from a broader list including roughly two dozen courses including, for example Materials for Biomedical Applications, Design of Medical Devices & Implants, and Mechanisms of Drug Actions.	Design of Medical Devices and Implants	1	Biological & Physiological Transport Phenomena, Biological Imaging & Functional Measurement, Biomaterials, Biomolecular Engineering, Cell & Tissue Engineering, Computational Modeling of Biological & Physiological Systems, Discovery & Delivery of Molecular Therapeutics, Genetic & Chemical Toxicology, Macromolecular Biochemistry & Biophysics, Metabolism of Drugs & Toxins, Microbial Systems & Pathogenesis, Molecular, Cell & Tissue Biomechanics, Molecular Pharmacology, Nanoscale Engineering of Biological Systems, New Tools for Genomics, Functional Genomics, Proteomics and Glycomics
Michigan Tech	Biomedical Engineering	BS, PhD	(no design reference)	Biomedical Engineering Design Project, Biomedical Design Fundamentals	2	none listed
Milwaukee School of Engineering	Biomedical Engineering	BS	A strong focus on engineering design. Encompassing all four years of study at MSOE, students work as a team on their design project.	Biomedical Engineering Design, Freshman BE Design, BE Design Methodology	3	Bioelectrical, Biomaterials, Biomechanics, Biomedical imaging and Biotransport

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Mississippi State University	Biological Engineering with an emphasis in Biomedical Engr	BS	objectives include: to develop the students' ability to work individually and in teams to complete engineering design projects,	Principles of Engineering Design	1	none listed
New Jersey Institute of Technology	Biomedical Engineering	BS, MS	(no design reference)	Capstone Design, Human Design Factors in Engineering, Design of Medical Instrumentation	3	Bioinstrumentation, Biomechanics, Biomaterials
North Carolina State University	Biomedical Engineering	BS, MS, PhD	(no design reference)	Biomedical Engineering Senior Design, Fundamentals of Biomedical Instrumentation	2	Biomechanics, Biomaterials and Tissue Engineering, Biomaterials, Biomedical Instrumentation
Northwestern University	Biomedical Engineering	BS, MS, PhD	To encourage creativity, self-learning and innovation in our students, especially emphasizing these attributes in the context of the design of devices, components, or processes that meet desired needs in biology or medicine.	Biomedical engineering design	1	Electronic Instrumentation, Biomechanics and Rehabilitation, Biological Materials and Biotechnology, Biomedical Signals and Images, Transport Processes and Tissue Engineering
Ohio State University	Bioengineering	BS(Minor), MS, PhD	(no design reference)	Biomedical Microdevices, Biomedical Product Development	2	Biomaterials, Imaging (bio-, medical, functional) and Nano/micro
Oregon State University	Bioengineering	BS, MS, PhD	Integration of biosciences with engineering sciences and design is a major goal of upper-division BIOE instruction. Students receive a capstone design experience in biomedical engineering or biotechnology, depending on their interests.	Bioengineering Design, Introduction to Design	2	none listed
Penn State University	Bioengineering	BS, MS, PhD	During the senior year, the student begins to integrate many of their engineering and life science experiences into a study of the design of medical devices.	Senior Design	1	Chemical Engineering, Electrical Engineering, Biomaterials, Biomechanics
Purdue University	Biomedical Engineering	BS, MS, PhD	(no design reference)	Biomedical Engineering Design Project, Medical Device Accidents, Practical Medical Device Industry Issues for Biomedical Engineers	3	Biochemical (cellular, tissue, molecular engineering), Biocomputer, Bioelectrical, Biomaterials, Biomechanics, Biosystems, Biotechnology, Biomedical imaging, Bioinformatics, Biotransport and Biophotonics (optics)
Rensselaer Polytechnic Institute	Biomedical Engineering	BS, MS, PhD	Throughout the program, hands-on experience, teamwork skills, and design practice are emphasized.	BME Design with Professional Development	1	Electrical Concentration, Biomaterials, Biomechanics
Rice University	Bioengineering	BS, MS, PhD	(no design reference)	Bioengineering Design	1	Biomaterials and Biomechanics, Bioinstrumentation, Imaging, & Optics, Cellular and Molecular Engineering
Rose-Hulman	Biomedical Engineering	BS (major and minor), MS	Biomedical engineers may be called upon to design medical devices like pacemakers, coronary stents, or prosthetic hips & knees	BE Research/Design	1	Biomaterials, Biomedical Instrumentation, Biomechanics
Rutgers University	Biomedical Engineering	BS, MS, PhD	(no design reference)	Biomedical Devices & Systems, Biomedical Senior Design, Theory and Design of Biomedical Instrumentation	3	Physiological Systems & Biomedical Instrumentation, Biomechanics & Biomaterials
Saint Louis University	Biomedical Engineering	BS, MS, PhD	(no design reference)	Senior Projects	1	Sensory Systems, Biomedical Signal Processing, Orthopaedic Biomechanics, Tissue Engineering
Stanford University	Bioengineering	MS, PhD	(no design reference)	Biomedical Device Design and Evaluations, Medical Devices Diagnostics and Pharmaceuticals, Medical Device Design, Biodesign Innovation	4	

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Stevens Institute of Technology	Bioengineering	BS	The emphasis in the design sequence is on teamwork, presentation skills and an entrepreneurial approach to design and manufacture.	Engineering Design, Design	2	none listed
SUNY at Stony Brook	Bioengineering (BS), Biomedical Engineering (MS)	BS, MS (BME), PhD (BME)	This hands-on approach is achieved by creating an undergraduate curriculum which exemplifies this approach, beginning with the very first introductory course and carrying through to the capstone Senior Design Course.	Biomedical Engineering Design, Senior Design Project in Biomedical Engineering	2	Biomechanics, Biomaterials, Bioelectricity, Molecular Biomedical Engineering
Syracuse University	Bioengineering	BS, MS, PhD	Students are free to complete either a research thesis or a design thesis, working one-on-one with a faculty member.	Senior Thesis, Biomaterials & Medical Devices	2	Bioelectrical, Biomechanics
Texas A&M University	Bioengineering	BS, MS, PhD	Other research includes ultrasonics, bioinstrumentation, signal processing, medical device system safety and human factors, and medical device design.	Analysis and Design Project, Design of Medical Devices	2	Imaging, Biomechanics
Tulane University	Biomedical Engineering	BS, MS, PhD	We provide our students with unique opportunities to conduct focused research or design projects in areas of individual interest, and we prepare our students for a successful transition to advanced study and professional careers.	Elements of BME Design, Team Design	2	Biochemical (cellular, tissue, molecular engineering), Bioelectrical, Biomaterials and Biomechanics
University of Akron	Biomedical Engineering	BS, MS, PhD	(no design reference)	BME Design, Intro to Biomedical Engineering Design, Medical Devices and Artificial Organs, Design of Medical Imaging Systems, Medical Imaging Devices	4	Biomechanics, Instrumentation, Signals and Imaging
University of Alabama at Birmingham	Biomedical Engineering	BS, MS, PhD	The culmination of a student's program of study is a capstone design experience.	Senior Design	1	Biomedical Implants & Devices, Cardiac Electrophysiology, Biomedical Imaging
University of Arizona	Biomedical Engineering	BS, MS, PhD	(no design reference)	Human Factors & Ergonomic Design	1	Biomaterials, Biomechanics, Biophotonics (optics), Neural engineering, Molecular, cellular, tissue engineering, Imaging (bio-, medical, functional), Mathematical modeling, Sensory organs/systems: Visual/eye, Nano/micro and Physiological systems: Cardiovascular
University of California, Berkeley	Bioengineering	BS, PhD	(no design reference)			Biomaterials, Biomechanics, Bioelectrical/electrophysiology, Instrumentation (diagnostic, therapeutic, home health), Artificial organs/prostheses (implants) and Transport processes (mass, fluid mechanics, energy)
University of California, Davis	Biomedical Engineering	MS, PhD	(no design reference)			Cell and Molecular Engineering, Biomedical Imaging, Musculo-Skeletal Biomechanics, Biomedical Microsystems
University of California, Irvine	Biomedical Engineering	BS, MS, PhD	Students also work as teams in senior design project courses to solve multidisciplinary problems suggested by industrial and clinical experience.	Design of Biomedical Electronics, Biomedical Engineering Design	2	none listed
University of California, Los Angeles	Bioengineering	BS, MS, PhD	(no design reference)	Bioengineering Capstone Design	1	Biomedical Signal Image Processing and Informatics, Bioacoustics, Speech and Hearing, Biomedical Instrumentation, Biomechanics, Biomaterials & Tissue Engr, Molecular & Cellular Bioengineering, Biocybernetics, bioengineering

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University of California, San Diego	Bioengineering: Biotech; Bioengineering: Bioinformatics; Bioengineering: Premed	BS, MS, PhD	Our goal is to train biomedical engineers who can generate innovative ideas and translate them to practical products, thus enhancing the health and well-being of people.	Introduction to Bioengineering Design, Principles of Biomaterials Design/Princ. of Bioins	2	Bioinformatics, Biosensors, Cardio Electrophysiology, Cardia Mechanics, Tissue Engineering, Cell Biophysics, Cell Modeling, Comp. Biology, Genetic Circuits, Microcirculation, Molecular Biomechanics, Muscle Physiology, Quantitative Microscopy, Systems Biology, Tissue Eng., Vascular Bioengineering, Imagin, Applied Nano, etc.
University of Cincinnati	Biomedical Engineering	BS, MS, PhD	The medical device innovation (MDI) track was recently initiated to better prepare students to work in industry and to provide a foundation that encourages commercial innovation in students who go on to academic and medical careers.	Intro to Medical Device Innovation, Biomedical Engineering Design, Medical Product Design, Medical Device Innovation	3	Medical Device Innovation, Biomechanics
University of Connecticut	Biomedical Engineering	BS, MS, PhD	An up-to-date technical education in biomedical engineering with emphasis on synthesis, analysis, and design	Biomedical Engineering Design	1	
University of Florida	Biomedical Engineering	MS, PhD	Provide students with experience and understanding of design requirements and constraints in the clinical and biological science environment, including technology transfer	Biomedical Engineering & Physiology	1	Biomechanics, Tissue Engineering, Biomedical Imaging and Signal Processing, Neural Engineering
University of Hartford	Biomedical Engineering	BS	This is designed to give each student the opportunity to utilize their biomedical engineering knowledge in a team environment to assist in the solution of a clinically relevant issue.	Biomedical Engineering Design Project	1	none listed
University of Houston	Biomedical Engineering	BS	(no design reference)	Capstone Design	1	Biochemical (cellular, tissue, molecular engineering), Bioelectrical, Biomaterials, Biomechanics, Biosystems, Biotechnology, Bioinformatics, Biotransport and Biophotonics (optics)
University of Illinois, Chicago	Biomedical Engineering	BS, MS, PhD	(no design reference)	Senior Design	1	Cell & Tissue, Bioinformatics, Neural Engineering, Bioentrepreneur
University of Illinois, Urbana-Champaign	Bioengineering	BS, MS, PhD	To provide students with understanding of the fundamental knowledge in the mathematical, physical, chemical and life sciences, as well as the principles of engineering design, so as to prepare them for a productive career in a rapidly changing field.	Bioengineering Senior Design	1	Biosignals, Systems, Control, and Modeling, Electronics, Imaging, Cellular and Molecular Microengineering, Computational Biology, Biomaterials, Biomechanics, Bio molecular Engineering, Cell and Tissue Engineering
University of Iowa	Biomedical Engineering	BS, MS, PhD	In any case, at least one three-semester hour technical course (with engineering science or design topics) must be chosen as one of the electives.	BME Design	1	Biomaterials, Musculo-Skeletal Biomechanics, Biosystems/Bioimaging, Technological Entrepreneurship Certificate, Cardiovascular Biomechanics, Bioinformatics/Computational Biology, Tissue Engineering
University of Memphis, University of Tennessee Health Sciences Center	Biomedical Engineering	BS, MS, PhD	The overall educational program emphasizes problem definition, engineering analysis, device and process design, experimental methods, prototype development, and engineering evaluation of ends for devices, processes and materials that are of importance in medicine and biology.	Biomedical Engineering Design Principles, Senior Project	2	Biomechanics, Electrophysiology, Cell/Tissue Engineering, Medical Imaging
University of Miami	Biomedical Engineering	BS, MS, PhD	During the senior year each student is involved in a major design experience through a year-long Senior Design Project. It is a capstone project where the students pool all their knowledge and previous design experience into one major project integrating the various components of the curriculum.	Senior Project	1	Bioelectrical, Biomechanics
University of Michigan	Biomedical Engineering	BS, MS, PhD	(no design reference)	Biomedical Design	1	Bioelectrical, Biomechanics, Biochemical, Biomedical Imaging, Biotechnology, Rehabilitation Engineering and Ergonomics

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University of Minnesota	Biomedical Engineering	BS, MS, PhD	The two semester senior design course involves both didactic lectures on the generic design process and on topics particular to medical device design, and the development of a prototype device from conception with the advising of an engineer from the local medical device industry.	Biomed Eng Design, New Product Design and Business Development	2	Biomechanics,Imaging,MEMS,Tissue/C ell Engineering,Medical Informatics,Biomaterials,nstrumentation
University of North Carolina at Chapel Hill	Biomedical Engineering	MS, PhD	(no design reference)			Digital Systems and Signal Processing,Instrumentation/Telemedicine/Microelectronics,Medical Imaging,Biomaterials/Biomechanics,Biosystems Analysis,Medical Informatics
University of Oklahoma	Biomedical Engineering	MS, PhD	(no design reference)	Biomedical Engineering Design, Implantable Devices	2	Biomechanics,Implantable Devices,Tissue Engineering,Imaging
University of Pennsylvania	Bioengineering	BS, MS, PhD	In the senior year, BSE students take a one-year sequence of bioengineering senior design, BE 495-496 that serves as the capstone to the program.	Senior Design Project, Medical Devices	2	Biomechanics,Cell and Tissue Engineering,Orthopaedic Engineering,Neuroengineering
University of Pittsburgh	Bioengineering	BS, MS, PhD	These experiences include: a full year of senior bioengineering design,	Bioengineering Design	1	Biomechanics,Biosystems,Biotechnology and Artificial Organs
University of Rochester	Biomedical Engineering	BS, MS, PhD	The core includes courses covering introductory engineering methods, biomechanics, basic circuits, numerical methods, biomedical signals, quantitative physiology and design.	Introduction to Design	1	Biochemical,Bioelectrical,Biomechanics , Optics
University of Southern California	Biomedical Engineering	BS, MS, Medical Device and Diagnostic Engineering, PhD	The mission of this novel Master's degree program is to provide a strong theoretical and practical education for post-graduate engineering students who are pursuing or intend to pursue careers in the medical device and diagnostics industry.	Senior Projects: Measurements and Instrumentation	1	Biosystem/Biosignal Modeling,Neuroengineering,Medical Devices and Biomedicine
University of Tennessee, Knoxville	Mechanical, Aerospace & Biomedical Engineering	BS, MS, EngSci PhD, EngSci	(no design reference)	Biomedical Engineering Design	1	none listed
University of Texas at Austin	Biomedical Engineering	BS, MS, PhD	The main educational objective is a thorough training in the fundamentals of engineering science, design, and biology	Biomedical Engineering Design Project, Principles of Engineering Design	2	Biomedical Imaging and Instrumentation, Cell and Biomolecular Engineering, Computational Biomedical Engineering
University of Toledo	Bioengineering	BS, MS, PhD	(no design reference)	Senior Design Project	1	Pre-Med, Biomechanics, Modeling & Systems, Neuroengineering & Nanotechnology, Optics & Imaging, Tissue Engineering
University of Toronto	Biomedical Engineering	BS, MS, PhD	The program is based on principles of engineering sciences and engineering design, in conjunction with basic life sciences.			none listed
University of Utah	Biomedical Engineering	BS, MS, PhD	One goal is an ability to design an experiment, system, component, or process to meet desired needs;	Biomedical Engineering Project, Biomedical Engineering Design	2	Bioelectrical,Biomaterials, Biomechanics, Biomolecular, Computational
University of Virginia	Biomedical Engineering	BS, MS, PhD	Second-year students take on a major design project even as they are gaining an overview of the field.	Bioinstrumentation and Design, BME Capstone Design, BME Advanced Project, BME Integrated Design and Experimental Analysis (IDEAS) Lab, Introduction to Biomedical Engineering Design and Discovery	5	none listed

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University of Washington	Bioengineering	BS, MS, PhD	Graduates will ... derive design principles from nature to solve medical problems and create biomedical devices and materials.	Bioengineering Research/Capstone Design	1	Computational Bioengineering, Distributed Diagnosis & Home Healthcare, Engineered Biomaterials, Medical Imaging & Image-Guided Therapy, Molecular Bioengineering and Nanotechnology
University of Wisconsin-Madison	Biomedical Engineering	BS, MS, PhD	The BME undergraduate degree emphasizes engineering design in preparation for employment in biomedical industries and for graduate study. Novel aspects of the undergraduate program include design projects throughout the curriculum supervised by a faculty mentor and a committee of affiliated faculty, clinicians and biomedical industry professionals...	Biomedical Engineering Design, Biomedical Engineering Capstone Design	2	Biochemical, Bioelectrical, Biomechanics, Biosystems, Health Care Systems and Medical Informatics, Biocomputing
Vanderbilt University	Biomedical Engineering	BS, MS, PhD	Students will... have a working knowledge of the design and application of medical instruments and transducers	Design of Biomedical Engineering Devices and Systems	1	Biomedical Imaging, Bio-Optics, Cellular and Intracellular Bioengineering, Biotransport, Bioengineering Therapeutics, Bioelectricity
Virginia Commonwealth University	Biomedical Engineering	BS, MS, PhD	The degree program has four curricular tracks including (1) pre-med, (2) biomedical electronics & instrumentation, (3) biomechanics and biomaterials, and (4) human factors and	Biomedical Engineering Senior Design Studio	1	Pre-med, biomedical electronics & instrumentation, biomechanics and biomaterials, and human factors and rehabilitation engineering.
Washington State University	Bioengineering	BS	A capstone design cluster prepares graduates for business-oriented product development.	Bioengineering Capstone Project	1	none listed
Washington University, St. Louis	Biomedical Engineering	BS, MS, PhD	Learning fundamentals in the classroom as well with hands-on experiences with computer and wet laboratories, teamwork, communication skills and design are emphasized.	Biomedical engineering design	1	Biomechanics, Applied science, Bioelectrical Systems, Biotechnology, Biomolecular Systems
Wayne State University	Biomedical Engineering	MS, PhD	The result is an engineer who views the human body as a complex system, its diseases and injuries as breakdowns in that system, and medical interventions as design alternatives for the repair of the system.	Design of Rehabilitation Systems, Design of Mechatronic Systems	2	Transportation-Related Trauma, Age-Related Injury, Rehabilitation Engineering, Engineering Neurophysiology, Smart Sensors, Biomaterials and Tissue Engineering, Biomedical Imaging
Western New England College	Biomedical Engineering	BS	A total of 131 credit hours are required for graduation and a year-long capstone senior design project is required of every engineering student.	Design Projects, Sr. Design Projects	2	Bioinstrumentation, Biomechanics, Cell and Tissue
Worcester Polytechnic Institute	Biomedical Engineering	BS, MS, PhD	(no design reference)	Major Qualifying Project, Biomedical Engineering Design	2	Biochemical, Bioelectrical, Biomechanical, Bioinstrumentation/biosensors, Medical Imaging
Wright State University	Biomedical Engineering	BS, MS, PhD, Engineering	All students complete a 3 quarter capstone Senior Design sequence.	Biomedical Engineering Design	1	Biomedical Engineering Systems, Biomedical Signal/Imaging, Biomedical/Human Factors Engineering Ergonomics
Yale University	Biomedical Engineering	BS, MS, PhD	A senior seminar and a senior project permit students to gain practical, detailed information about their chosen area of concentration	Special Projects	1	Biomechanics, Biomedical Imaging, Biomolecular Engineering and Biotechnology

21 Bioengineering
63 Biomedical Engineering

144 number of "design" courses offered
1,55 per university
93 universities
5 most at one university
6 don't have one listed