



## Memo

To: Randy Smith, Vice Provost for Academic Programs, Office of Academic Affairs  
From: Cory Matyas, Assistant Dean for Curriculum and Assessment  
Date: February 25, 2026  
Re: Informational Item - Update to Biomedical Engineering Technical Electives

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The Department of Biomedical Engineering proposes minor updates to its Career Courses/Technical Electives rules to improve flexibility, clarify limits on research and study abroad credits, and allow broader access to engineering electives. These adjustments do not change required coursework or total degree hours. They request this update be effective AU26.

The Engineering College Committee on Academic Affairs met on February 25, 2026 and reviewed this proposal as an Informational Item. There were no questions or concerns and a College-level record of support for this proposal was created.

February 1, 2026  
College Committee for Academic Affairs (CCAA)

We are writing to request that the CCAA consider the proposed changes to the curriculum for the Department of Biomedical Engineering (BME) outlined in detail below. The proposed changes will increase flexibility for students in selecting Career Courses/Technical Electives in the BME major and were approved by the BME Undergraduate Studies Committee on January 21, 2026. With the implementation of Buckeye Degree Planner, these changes will streamline the programming of our audit and will greatly reduce the need to request exceptions for students. It will also reduce the need to submit subsequent approvals to CCAA as engineering departments create new courses in the future. Please let us know if you have any questions or need any additional information.

Sincerely,

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### **Proposal for modifying the BME curriculum**

The following changes to BME Career Courses:

1. Add Psychology 3331: Abnormal Psychology to the non-engineering Career Course list. This is a pre-req for many Prosthetics Master's Programs around the country.
2. Add ECE 2060: Introduction to Digital Logic to the engineering Career Course list. This course is part of the Signal Processing minor.
3. Clarify maximum research credit hours. Current guidelines allow up to 3 credits of Engineering 4998 research and up to 6 credits of Engineering 4999 thesis research credit. Moving forward, max total allowed to count is 6 credits of combined 4998 and 4999 credit.
4. Clarify maximum study abroad credit hours. Max 3 credit hours allowed of ENGR 5797 towards engineering career courses.
5. Expand Engineering Career Course list. Previously a set, approved list. New rules would allow any Engineering course at the 3000 level or higher to count as an engineering career course. (Excluding ENGR 4191 which is a non-credit course)

Please see below for the changes to the program's curriculum sheet and the following Excel tables with full listing of Career Courses (**proposed updates highlighted in yellow**).

Non Engineering Career Course	Name	Credits
Acctmis 2000 or 2200 or 2300	Introduction to Accounting I	3
BioEthics 3000	Case Studies in Medical and Healthcare Ethics	3
Bioethics 5060	AI and Bioethics	3
BMI 5xxx	Biomedical Informatics	3
Busfin 3120 or 3220	Foundations of Finance	3
BusMGT 3130 or 3230	Foundations of Operations Management	3
BusMHR 3100 or 3200	Foundations of Management and HR	3
BusMHR 3510	Innovation and Entrepreneurship	3
BusML 3150 or 3250	Foundations of Marketing	3
Chem 2510 or 2910H or 2310	Organic Chemistry 1	4
Chem 2520 or 2920H	Organic Chemistry 2	4
Chem 2540	Organic Chem Lab 1	2
Chem 2550	Organic Chem Lab 2	2
Comm 2110	Public Speaking	3
Comm 2131	Professional Speaking	3
Design 2700	Design Practice	3
EEOB 2520	Human Physiology	3
EEOB 3510	Cell Biology	3
English 3305	Technical Writing	3
Hthrhsc 2500	Medical Terminology	3
Hthrhsc 5620	Aging, Access, and Design	3
Hthrhsc 7410	Structure and Functions of the Body	3
MicroBio 4000	Microbiology	4
MoleGen 4500	General Genetics	3
Neuro 3000	Cellular and Molecular Neuroscience	3
Physio 3200	Human Physiology	5
Health and Wellbeing Theme GE	Topic varies	3 or 4
Psychology 3331	Abnormal Psychology	3

Engineering Career Course	Name	Credits
Any Engineering Course at the 3000-level or higher		varies
Exclusion: ENGR 4191		

Engineering Career Course	Name	Credits
<b>Below 3000 allowable courses</b>		
CSE 1222 or 1223 or 1224	C++ / Java / Python Programming	3
CSE 2122 or 2123 or 2124	Intermediate C++ / Java / Python Programming	3
CSE 2221	Software 1	4
CSE 2331	Foundations II: Data Structures and Algorithms	3
ECE 2300	Circuits	3
ECE 2060	Introduction to Digital Logic	3
ENGR 5797	Engineering Study Abroad (up to 3 credits)	3
ISE 2500	Intro to Manufacturing Engineering	3
MechEng 2030	Dynamics	3

#### Research

BME 4998	Research (up to 3 credits)
BME 4999 (H)	Thesis Research (up to 6 credits)
Any Engineering 4998 (MechEng, CBE, MSE, etc.)	Research (up to 3 credits)
Any Engineering 4999 (H) (MechEng, CBE, MSE, etc.)	Thesis Research (up to 6 credits)
(If a student takes both 4998 and 4999 credit, max 6 hours can be used towards career electives)	

## Bachelor of Science Biomedical Engineering

Students in this major will complete a minimum of 131 hours outlined as follows.

General Education Requirements		
Requirement	Course Options	Hours
GE Launch Seminar	GENED 1201	1
Foundations: Writing and Information Literacy <sup>a</sup>	<i>Student Choice</i>	3
Foundations: Mathematical & Quantitative Reasoning/Data Analysis <sup>a</sup>	<i>Student Choice*</i>	0-5
Foundations: Literary, Visual and Performing Arts <sup>a</sup>	<i>Student Choice</i>	3
Foundations: Historical & Cultural Studies <sup>a</sup>	<i>Student Choice</i>	3
Foundations: Natural Science <sup>a</sup>	<i>Student Choice*</i>	0-5
Foundations: Social & Behavioral Sciences <sup>a</sup>	<i>Student Choice</i>	3
Foundations: Race, Ethnic and Gender Diversity <sup>a</sup>	<i>Student Choice</i>	3
Theme: Citizenship for a Diverse & Just World <sup>b</sup>	<i>Student Choice</i>	4
Theme: Student Choice <sup>b</sup>	<i>Student Choice</i>	4
GE Reflection	Capstone**	Embedded into Major Core Capstone
<b>Total</b>		<b>24-34</b>

College / Degree Requirements <sup>a, b</sup>		
Requirement	Course Options	Hours
MATH 1151*, 1172*, (Math & Quantitative Reasoning / Data Analysis)		10
PHYSICS 1250* (Nat Sci)		5
ENGR 1181.0x, 1182.0x		4
ENGR 1100.01		1
<b>Total</b>		<b>20</b>

<sup>a</sup> Some coursework required by the major or college may satisfy GE requirements. Please add an asterisk to "student choice" for any GE category where that category can be satisfied by a required course. Please indicate in parentheses following the course listing within College/Degree requirements or Major Coursework what GE category the course satisfies ( e.g., "Biology 1113 (Nat Sci)" in the Major Core for programs that require this as a prerequisite to major coursework). There is no limit to the number of courses that may overlap between the GE Foundations and the rest of the academic program

<sup>b</sup> Students complete either a 4-credit course or two 3-credit courses in each of two General Education Theme areas: Citizenship for a Diverse & Just World (required), and the student's choice of available GE Themes. If major-required courses are approved as a GE Theme course, one course in each GE Theme area may double count in the GE and major hours. Theme courses are identified with a ❖ symbol.

\* These courses are can also fulfill certain GE Requirements above (may be degree requirements, pre- or co-requisites, or major courses).

Major Coursework <sup>a, b</sup>		
Course	Title	Hours
Major Core		
BIOMEDE 2000	INTRO TO BME	3
BIOMEDE 2001	PROFESSIONAL DEVELOPMENT	1
BIOMEDE 2200	CELLS & MOLECULES	3
BIOMEDE 2700	NUMERICAL SIMULATIONS IN BME	2
BIOMEDE 2800	ANATOMY FOR ENGINEERS	3
BIOMEDE 3701	BME LAB	2
BIOMEDE 3702	MEASUREMENT & INSTRUMENTATION LAB	3
BIOMEDE 3703	QUANTIATIVE PHYSIOLOGY	3
BIOMEDE 4901	SENIOR CAPSTONE DESIGN I	3
BIOMEDE 4902**	SENIOR CAPSTONE DESIGN II	3
BIOMEDE DOMAIN	TOPICS VARY, STUDENT SELECTS 3	9
<b>Total</b>		<b>35</b>
Required Non-Major General Courses		
CHEM 1210	GENERAL CHEMISTRY I	5
CHEM 1220	GENERAL CHEMISTRY II	5
MATH 2173	ENGINEERING MATH B	3
MATH 2174	LINEAR ALGEBRA & DIFFERENTIAL EQUATIONS	3
BIOLOGY 1113	BIOLOGICAL SCIENCES: ENERGY TRANSFER AND DEVELOPMENT	4
MECHENG 2040	STATICS AND INTRODUCTION TO MECHANICS OF MATERIALS	4
STAT 3450.0X	BASIC STATISTICS FOR ENGINEERS	2
MATSCEN 2010	INTRO TO ENGINEERING MATERIALS	3
MECHENG 3500	ENGINEERING THERMAL SCIENCES	3
PHYSICS 1251	E&M, WAVES, OPTICS, MODERN PHYSICS	5
<b>Total</b>		<b>37</b>
Required Technical / Directed / Targeted Electives; Career Courses		
CAREER COURSE		6
ENGR CAREER COURSE	3000 level or higher Engineering Courses	6
BIOMEDE 5XXX CAREER COURSE		3
<b>Total</b>		<b>15</b>

General Education	24-34
College / Degree	20
Major Core	35
Required Non-Major	37
Technical / Directed / Targeted Electives; Career Courses	15
<b>Minimum Total Credit Hours for Degree</b>	<b>131</b>