# **ATTACHMENT 3A**-

### ADD, CHANGE OR DELETE UNIT, PROGRAM REQUIREMENTS, OR ACADEMIC POLICIES

Complete this form consistent with the instructions in Academic Policy 1622.20. Use the form to add, change, or delete a program or unit or to change program policies. Proposed additions and changes must be consistent with Academic Policies 1100.40 and 1621.10 and any other policies which apply.

SECTION I: Approvals						
Department / Program Chair Date Subr		mitted	Graduate Council Chair		Date	
College Dean Date			Faculty Senate Chair		Date	
Honors College Dean	Date		Provost		Date	
Core Curriculum Committee Date			Board of Trustees Approval/Notification Date			
University Course and Programs Co.		Arkansas Higher Educ	ation Coordinating Board Approval/Noti	fication Date		
SECTION II: Profile Data	- Required Inforn	nation and N	Name Change Info	ormation		
Academic Unit: M	ajor/Field of Study	Minor	Other Unit	Policy		
Level:	ndergraduate	Graduate	Law	Effective Catalog Year 2014		
Program changes are effective w	ith the next available	catalog. See	Academic Policy Se	ries 1622.20		
Current Name BSBME, Biom	edical Engineering					
College, School, Division ENG	Department (	Code <u>BMEG</u>				
Current Code (6 digit Alpha) <b>BMEGBS</b>		Proposed Code (6 digit Alpha) Prior approval from the Office of the Registrar is required.				
☐Interdisciplinary Program		CIP Code 14.0501 Prior assignment from Office of Institutional Research is required.				
Proposed Name When a program name is changed, enroll	ment of current students re	eflects the new na	me.			
SECTION III: Add a New F	Program/Unit					
For new program proposals, o 'Criteria and Procedures for Prep http://www.adhe.edu/division	aring Proposals for N	New Programs	in Arkansas.' ADHI		cribed in	
	courses offered by an n of that academic co		red here:	ollege dean's office has been not ght College of Arts & Sciences	ified. The	
SECTION IV: Eliminate an	<b>Existing Program</b>	n/Unit				
Code/Name Effect	ive Catalog Year					
No new students admitted to program to con			rm: Year:			

Insert here a statement of the exact changes to be made:

• Implement enrollment cap for undergraduate program within the department

SECTION V: Proposed Changes to an Existing Program or Program Policies

Check if either of these boxes apply and provide the necessary signature:
Program change proposal adds courses offered by another academic college, and that college dean's office has been notified. The signature of the dean of that academic college is required here:
Program change proposal deletes courses offered by another academic college, and that college dean's office has been notified. The signature of the dean of that academic college is required here:
Check all the boxes that apply and complete the required sections of the form:
<ul> <li>□ Change of Name and Code (Complete only sections I, II, V and VII.)</li> <li>□ Change Course Requirements: (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)</li> <li>□ Change Delivery Site/Method (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)</li> <li>□ Change Total Hours (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)</li> <li>X Change in Program Policies</li> </ul>

#### **SECTION VI: Justification**

Justify this change and state its likely effect on any other degree program (including those outside the school or college). Identify any program or program components (other than courses) to be eliminated if this program is implemented. (Program and course change forms must also be submitted for such related changes.)

This proposal is to limit enrollment to the undergraduate program. This enrollment restriction is being put in place to manage the undergraduate student numbers in the department while faculty numbers increase to 15 members or to be revisited in 5 years. This change also allows the department to better manage research and service obligations assigned to current faculty members.

#### **SECTION VII: Catalog Text and Format**

In the box below, insert the current catalog text which is to be changed, with changes highlighted with the color yellow. Include all proposed changes identified in Section V. Only changes explicitly stated in Section V will be considered for approval by the University Course and Programs Committee, the Graduate Council and the Faculty Senate. If you are proposing a new program, give proposed text with all of the elements listed below. If you are proposing modified text, include these elements as appropriate.

#### Include the following elements, in order, in the catalog text for proposed undergraduate program(s) or program changes:

- State complete major/program name
- Briefly define or describe the major/program or discipline.
- Identify typical career goals or paths for graduates. (Optional)
- State admission requirements (if any) for entry or entry into upper/advanced level of major/program.
- Identify location in catalog of university, college/school, and department/program requirements which the student must meet in addition to hours in the major, but do not restate these requirements.
- State course requirements in the major and any allied areas, giving number of hours and specific courses; specify electives or elective areas and give numbers of hours and courses in elective pools or categories; identify any other course requirements.
- State any other requirements (required GPA, internship, exit exam, project, thesis, etc.).
- Identify name and requirements for each concentration (if any).
- Specify whether a minor or other program component is allowed or required and provide details.
- State eight-semester plan requirements

For minors, state requirements in terms of hours, required courses, electives, etc.

For graduate program/units, include elements (as needed) parallel to those listed for undergraduate programs above.

For Law School program/units, prepare text consistent with current catalog style.

For centers, prepare text consistent with current catalog style.

Terry Martin
Interim Head of the Department
Bell Engineering 4188BJohn A. White, Jr. Engineering Hall 120
479-575-4667
http://www.bmeg.uark.edu

Biomedical engineering encompasses the creation, design, and operation, of processes / technology related to the broad field of human healthcare. The profession traditionally has focused on applications related to the development of instrumentation and diagnostic equipment, discovery of novel treatment options, production of new therapeutics, and the elucidation of underlying biophysical phenomena. Newer applications of bioengineering take advantage of the ever deepening understanding of human physiology and molecular genetics, as related to prevention, detection, and treatment of medical conditions. The program objectives of the Biomedical Engineering undergraduate program are to produce graduates who are capable of:

- Succeeding in the practice of engineering or other professional activities, and
- Succeeding in post baccalaureate studies.

Completion of the degree requirements provides for the following educational outcomes:

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
- An ability to function on multidisciplinary teams
- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- The broad education necessary to understand the impact of engineering solutions in global, economic, environmental, and societal contexts
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

These educational outcomes are experienced within the context of biology and physiology appropriate to solving problems at the interface of engineering and biology.

## Admission to the Biomedical Engineering Program

The Department of Biomedical Engineering will accept a total of 60 undergraduate students each Fall semester into the undergraduate program. A selection committee will meet and review applications each Spring semester and notify students prior to enrolling for the Fall semester. Students will be considered for admission to the program based on the following criteria:

- GPA
- Personal Statement Essay
- Completion of pre-requisites for the Introduction to Biomedical Engineering BMEG 2613 course

Further information regarding this process can be found in the department's Undergraduate Advising Handbook, which is also available on the department's website at http://www.bmeg.uark.edu.

# **Technical Options in Biomedical Engineering**

Each student in biomedical engineering is required to complete nine semester hours of biomedical engineering technical electives. Biomedical engineering technical elective courses must be selected from a faculty-approved list of courses found in the department's Undergraduate Advising Handbook, which is available on the department's website at <a href="http://www.bmeg.uark.edu">http://www.bmeg.uark.edu</a>. Elective courses are chosen with the aid of an academic adviser to better prepare for employment or further study in areas such as:

- Bioengineering
- Pharmaceutical manufacturing or pharmacology
- Biomedical device design
- Medicine
- Business
- Law

Te	chr	nica	LElec	ctive	Course

Each student in biomedical engineering is required to complete three semester hours of upper level science electives. Upper level (3000 and above) science electives will be chosen from courses in mathematics, engineering, and the sciences with the approval of their adviser. The department maintains a list of approved upper level science electives that may be found in the department's Undergraduate Advising Handbook, which is available on the department's website at <a href="http://www.bmeg.uark.edu">http://www.bmeg.uark.edu</a>.

# **Honors Program Requirements**

Students enrolled in the Honors College who are to receive the Bachelor of Science in Biomedical Engineering must complete a minimum of 12 hours of honors credit. At least 6 hours must be completed within the Biomedical Engineering program including at least 3 hours resulting in an Honors Thesis. The BMEG honors courses are acceptable as engineering electives and in some cases may be substituted for required courses.

SECTION VI	III: Action Recorded by Registra	ır's Office		
PROGRAM INV	ENTORY/DARS			
PGRM	SUBJ	CIP	CRTS	
DGRE	PGCT	OFFC&CRTY VALID		
REPORTING CO	DDES			
PROG. DEF	_	REQ. DEF.	Initials	Date
Distribution				
Notification to: (1) College (7) Treasurer	(2) Department (3) Admissions (8) Undergraduate Program Committee	(4) Institutional Research	(5) Continuing Education	(6) Graduate School