

Brothers, Sheila

From: Farrell, Herman
Sent: Thursday, April 26, 2018 11:07 PM
To: Brothers, Sheila; McCormick, Katherine
Subject: Biosystems Engineering
Attachments: UG Degree Biosystems New Form Sept 2017 (004).pdf

The SAASC convened on Friday, April 20, 2018 to consider a proposal from the College of Engineering, Department of Biosystems & Agricultural Engineering (Biosystems Engineering program) to change credit hours to 128.

Attendance: Dan Morey, David Hulse, Fred Danner, Kevin Donohue, Brad Kerns, Rebecca Kellum, Brad Hubbard, Shawn Caudill, Herman Farrell (Chair)

Procedure:

Herman Farrell acted as facilitator of the proposal.

Discussion:

Farrell noted that this proposal is similar to other proposals from the College of Engineering recently approved by the SAASC, SC and US involving a reduction in total credit hours for a specific engineering program in order to comply with a CPE mandate that the total credit hours not exceed 128. The supportive elective (3 credit hours) will no longer be required. This proposal also involves allowing CE 341 to be used to fulfill ME 330, BAE 502 can be used to fulfill ME 340 and a new BAE 310 course will be required in place of ME 325. The committee confirmed that the new course had been approved and that the course changes affecting other educational units have been approved by those units.

Vote:

A motion was made and seconded that the SAASC approve the proposal from the College of Engineering, Department of Biosystems & Agricultural Engineering (Biosystems Engineering program) to change credit hours to 128.

The committee voted 9 in favor, 0 opposed.

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CHANGE UNDERGRADUATE DEGREE PROGRAM

PLEASE NOTE: To ensure that a series of changes to an existing degree program does not essentially create a new program, the Southern Association for the Accreditation of Colleges and Schools (SACS) requires submission of its Substantive Change Checklist for every program change. Prior to college-level review, you must fill out and submit the [SACS Substantive Change Checklist](#) to the Office of Institutional Effectiveness. Contact Institutional Effectiveness (institutionaleffectiveness@uky.edu) for assistance.

Once approved at the college level, your college will send the proposal to the appropriate Senate academic council (HCCC and/or UC) for review and approval. Once approved at the academic council level, the academic council will send your proposal to the Senate Council office for additional review and then a 10-day posting online, during which senators review on their own and have an option to register an objection if they so desire. If no objection is raised to the Senate Council Office within ten days of the posting the proposal, then the program change is approved. The Senate Council Office will report approvals to the Provost, Registrar and other appropriate entities, including the contact person.

For every proposed change, you MUST also include the existing requirement.

SUMMARY OF CHANGES						
Check all that apply.						
<input checked="" type="checkbox"/> Courses	<input type="checkbox"/> Program name	<input checked="" type="checkbox"/> Total required credit hours	<input type="checkbox"/> Student learning outcomes			
<input type="checkbox"/> Criteria for admissions/progression/termination		<input type="checkbox"/> Certificate assessment	<input type="checkbox"/> Other			
1. General Information						
1a	Date of contact with Institutional Effectiveness (IE) ¹ :		9-20-17			
	<input checked="" type="checkbox"/> Appended to the end of this form is a PDF of the reply from Institutional Effectiveness.					
1b	College ² :	Engineering	Department ² :	Biosystems & Agricultural Engineering		
1c	CIP code ³ :	14.0301	Today's Date:	8/28/2017		
1d	Current major name: (Biology, Design, etc.)	Biosystems Engineering	Proposed major name:	Biosystems Engineering		
1e	Current Degree (BA, BFA, etc.):	BSBN	Proposed degree:	BSBN		
1f	Will there be any changes regarding a track(s) for the program?				Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
1g	Accrediting agency, if applicable:	ABET (Accreditation Board for Engineering Technology)				
1h	Date of most recent periodic program review for this degree:		Fall 2018			
1i	Requested effective date:	<input checked="" type="checkbox"/> Fall semester following approval.	OR	<input type="checkbox"/> Specific Date ⁴ : <i>Fall 20</i>		

¹ Prior to college-level review, you must fill out and submit the SACS Substantive Change Checklist to the Office of Institutional Effectiveness. You can reach Institutional Effectiveness by phone or email (257-2873 or institutionaleffectiveness@uky.edu).

² It is not possible to change the home academic unit of a degree program via this form. To change the home unit, visit <http://www.uky.edu/faculty/senate> and search for forms related to academic organizational structure.

³ The CIP code is provided by Institutional Effectiveness. If a different CIP code is necessary, the program may undergo a review similar to the new program approval process.

⁴ No program change(s) will be effective until all approvals are received.

1j	Contact person name:	Czarena Crofcheck	Phone / Email:	8-4349 / crofcheck@uky.edu
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2. Overview of Changes

2a	Describe the rationale for the changes, including results from the most recent program review if applicable. (450 word limit)
	The supporting (free) elective is being dropped, such that our minimum number of credits to graduate is at 128. A new BAE course, BAE 310 Heat and Mass Transfer in Biosystems Engineering, will be required in place of ME 325 Elements of Heat Transfer. The students in biosystems engineering will benefit from having mass transfer included in this course, which is typically taught in biosystems engineering programs across the country. We are also changing the requirement that students take ME 330 (3 credits) instead of CE 341 (4 credits).

2b Use the fields below, as applicable, to identify the areas in which changes will be made.

		Current	Proposed
i.	Credit Hours of Premajor Courses:	44	44
ii.	Credit Hours of Preprofessional Courses:		
iii.	Credit Hours of Major Core Course Requirements	49	48
iv.	Minimum Credit Hours of Guided Electives:	21	21
v.	Minimum Credit Hours of Free Electives:	3	0
vi.	Credit Hours for Track 1 (name):		
vii.	Credit Hours for Track 2 (name):		
viii.	Credit Hours for Track 3 (name):		
ix.	Credit Hours for Track 4 (name):		
x.	Credit Hours for Track 5 (name):		
xi.	Credit Hours for Required Minor:		
xii.	Total Credit Hours Required by Level:		
	100-level:		
	200-level:		
	300-level:		
	400-level:		
	500-level:		

TOTAL CREDIT HOURS REQUIRED FOR GRADUATION:		<u>132</u>	<u>128</u>
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xv. If the total hours required for graduation have changed, explain below. (150 word limit)

The supporting (free) elective is being dropped, such that our minimum number of credits to graduate is at 128. A new BAE course, BAE 310 Heat and Mass Transfer in Biosystems Engineering, will be required in place of ME 325 Elements of Heat Transfer. The students in biosystems engineering will benefit from having mass transfer included in this course, which is typically taught in biosystems engineering programs across the country.

2c	Will the requested change(s) result in the use of courses from another educational unit?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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If "Yes," describe generally the courses and how they will be used.

ME 330 is a required course in the Biosystems Engineering curriculum. However, CE 341 is an accepted substitution.

If "Yes," two pieces of supporting documentation are required.

Check to confirm that appended to the end of this form is a letter of support from the appropriate chair/director⁵ of each unit from which individual courses will be used.

Check to confirm that appended to the end of this form is verification that the chair/director of each affected unit has consent from the faculty members of the unit. This typically takes the form of meeting minutes.

2d Will the proposed change(s) affect an associated minor? Yes No

If "Yes," the department must also submit a change form to change the minor.

3. Course Sharing

3a. Will the requested changes result in the use of courses from another unit? Yes No

If "Yes," describe generally the courses and how they will used.

If "Yes," two pieces of supporting documentation are required.

Check to confirm that appended to the end of this form is a letter of support from the other units' chair/director⁶ from which individual courses will be used.

Check to confirm that appended to the end of this form is verification that the chair/director of the other unit has consent from the faculty members of the unit. This typically takes the form of meeting minutes.

3. UK Core Courses

3a Are there any proposed changes to the UK Core requirements for the program? (If "Yes," indicate and proceed to next question. If "No," indicate and proceed to 4a.) Yes No

If "Yes," note the specific changes in the grid below.

UK Core Area	Current Course	Current Credits	Proposed Course	Proposed Credits
I. Intellectual Inquiry				
Arts and Creativity				
Humanities				
Social Sciences				
Natural/Physical/Mathematical				
II. Composition and Communication				
Composition and Communication I	CIS/WRD 110	3	<i>CIS/WRD 110</i>	3
Composition and Communication II	CIS/WRD 111	3	<i>CIS/WRD 111</i>	3
III. Quantitative Reasoning				
Quantitative Foundations				
Statistical Inferential Reasoning				
IV. Citizenship (one course in each area)				
Community, Culture & Citizenship in USA				

⁵ A dean may submit a letter only when there is no educational unit below the college level, i.e. there is no department/school.
⁶ A dean may submit a letter only when there is no educational unit below the college level, i.e. there is no department/school.

	Global Dynamics					
Total UK Core Hours		=====				
3b	Provide the Bulletin language about UK Core.					
4. Graduation Composition and Communication Requirement						
4a	Will the Graduation Composition and Communication requirement be changed? (If "Yes," indicate and proceed to next question. If "No," indicate and proceed to 5a.)			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
If "Yes," note the specific changes below, including changes to credit hours. If the course(s) used are from outside the home unit, one piece of supporting documentation is required. <input type="checkbox"/> Check to confirm that appended to the end of this form is a letter of support from the other units' chair/director ⁷ from which individual courses will be used.						
<i>Current</i>			<i>Proposed</i>			
i.	<input type="checkbox"/> Single course in home unit:		<input type="checkbox"/> <i>Single course in home unit:</i>			
ii.	<input type="checkbox"/> Multiple courses in home unit.		<input type="checkbox"/> <i>Multiple courses in home unit.</i>			
iii.	<input type="checkbox"/> Single course outside home unit.		<input type="checkbox"/> <i>Single course outside home unit.</i>			
iv.	<input type="checkbox"/> Multiple courses outside home unit.		<input type="checkbox"/> <i>Multiple courses outside home unit.</i>			
v.	<input type="checkbox"/> Course(s) inside & outside home unit.		<input type="checkbox"/> <i>Course(s) inside & outside home unit.</i>			
4b	Provide the Bulletin language about GCCR below.					
5. Other Course Changes						
5a	Will the college-level requirements change? (If "Yes," indicate and note the specific changes in the grid below. If "No," indicate and proceed to question 5c.)			Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
<i>Current</i>			<i>Proposed</i>			
<input type="checkbox"/> Standard college requirement			<input type="checkbox"/> <i>Standard college requirement</i>			
<input type="checkbox"/> Specific course			<input type="checkbox"/> <i>Specific course</i>			
Prefix & Nmbr	Credit Hrs	Title	Prefix & Nmbr	Credit Hrs	Title	Course Status ⁸
						Select one....
						Select one....
						Select one....
5b	Will the existing language in the Bulletin about college-level requirements change?			Yes <input type="checkbox"/>	No <input type="checkbox"/>	
If "Yes," provide the new language below.						

⁷ A dean may submit a letter only when there is no educational unit below the college level, i.e. there are no departments/schools.

⁸ Use the drop-down list to indicate if the course is a new course ("new"), an existing course that will change ("change"), or if the course is an existing course that will not change ("no change").

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5c	Will the pre-major or pre-professional course requirements change? (If "Yes," indicate and note the specific changes in the grid below. If "No," indicate and proceed to question 5e.)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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Current			Proposed			
Prefix & Nmbr	Credit Hrs	Title	Prefix & Nmbr	Credit Hrs	Title	Course Status ⁹
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....

5d	Provide the Bulletin language about pre-major or pre-professional courses below.

5e	Will the major's core course requirements change? (If "Yes," indicate and note the specific changes in the grid below. If "No," indicate and proceed to question 5g.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If "Yes," note the specific changes in the grid below.			

Current			Proposed			
Prefix & Nmbr	Credit Hrs	Title	Prefix & Nmbr	Credit Hrs	Title	Course Status ¹⁰
ME 325	3	Elements of Heat Transfer	BAE 310	3	Heat and Mass Transfer in Biosystems Engineering	New
CE 341	4	Introduction to Fluid mechanics	ME 330	3	Fluid Mechanics	Change
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....

⁹ Use the drop-down list to indicate if the course is new, exists but will change, or exists but will not change.

¹⁰ Use the drop-down list to indicate if the course is new, exists but will change, or exists but will not change.

5f	Provide the Bulletin language for major core course requirements.						
BAE 202 Statistical Inferences for Biosystems Engineering.....3 BAE 301 Economic Analysis for Biosystems2 BAE 305 DC Circuits and Microelectronics3 BAE 400 Senior Seminar.....1 BAE 402 Biosystems Engineering Design I.....2 BAE 403 Biosystems Engineering Design II.....2 BIO 152 Principles of Biology II.....3 ME 330 Fluid Mechanics*.....3 EE 305 Electrical Circuits and Electronics3 EM 221 Statics3 EM 302 Mechanics of Deformable Solids3 EM 313 Dynamics3 MA 214 Calculus IV3 ME 220 Engineering Thermodynamics3 BAE 310 Heat and Mass Transfer in Biosystems.....3 ME 340 Introduction of Mechanical Systems.*.....3 PHY 232 General University Physics4 PHY 242 General University Physics Laboratory1 Subtotal: Major hours48							
*CE 341 Introduction to Fluid Mechanics can be used to fulfill the requirement for ME 330 and BAE 502 Modeling of Biological Systems can be used to fulfill the requirement for ME 340.							
5g	Will the guided electives change? (If “Yes,” indicate and note the specific changes in the grid below. If “No,” indicate and proceed to question 5i.)					Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<i>Current</i>			<i>Proposed</i>				
Prefix & Nmbr	Credit Hrs	Title	Prefix & Nmbr	Credit Hrs	Title	Course Status ¹¹	
						Select one....	
						Select one....	
						Select one....	
						Select one....	
						Select one....	
						Select one....	
5h	Provide the Bulletin language for guided electives.						
5i	Will the free electives change? (If “Yes,” indicate and note the specific changes in the space below. If “No,” indicate and proceed to question 5j.)					Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Dropping the free elective to reduce the total credits required for graduation.							

¹¹ Use the drop-down list to indicate if the course is new, exists but will change, or exists but will not change.

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5j	Does the proposed change affect any track(s)? (If “Yes,” note the specific changes using the grid below. If “No,” proceed to question 6.)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	If more than one track is affected, click HERE for a template. Append a PDF for each affected track to the end of this form.		

Track Name:		<input type="checkbox"/> New Track	<input type="checkbox"/> Changed Track	<input type="checkbox"/> Deleted Track		
<i>Current</i>			<i>Proposed</i>			
Prefix & Nmbr	Credit Hrs	Title	Prefix & Nmbr	Credit Hrs	Title	Course Status ¹²
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....

5k	Provide the Bulletin language for the track.

6. Semester by Semester Program

List below the typical semester-by-semester program for the major. If multiple tracks are available, click [HERE](#) for a template for additional tracks and append a PDF of each track’s courses to the end of this form.

YEAR 1 – FALL: (e.g. “BIO 103; 3 credits”)	EGR 101 1 EGR 102 2 CHE 105 4 CIS /WRD 110 3 MA 113 4 Total 14	YEAR 1 – SPRING:	EGR 103 2 MA 114 4 CIS/WRD 111 3 PHY 231 4 PHY 241 1 UK Core 3 Total 17
YEAR 2 - FALL :	BAE 200 3 BIO 148 3 MA 213 4 PHY 232 4 PHY 242 1 CE 106 3 Total 18	YEAR 2 – SPRING:	BAE 202 3 MA 214 3 ME 220 3 EM 221 3 CHE 107 3 Total 15
YEAR 3 - FALL:	BAE 301 2 ME 330 3 EE 305 3 EM 313 3 BIO 152 3 WRD 204 (GCCR) 3 Total 18	YEAR 3 - SPRING:	BAE 305 3 EM 302 3 BAE 310 3 Core Elective 3 UK Core 3 UK Core 3 Total 18
YEAR 4 - FALL:	BAE 402 2 BAE 400 1 Core or Tech Elective 3 Core or Tech Elective 3 Core or Tech Elective 3	YEAR 4 - SPRING:	BAE 403 2 ME 340 3 Core or Tech Elective 3 Core or Tech Elective 3 UK Core 3

¹² Use the drop-down list to indicate if the course is new, exists but will change, or exists but will not change.

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	Bio Sci Elective	3		<i>Total</i>	<i>17</i>
	Total	15			

7. Approvals/Reviews

Information below does not supersede the requirement for individual letters of support from educational unit administrators and verification of faculty support (typically takes the form of meeting minutes).

In addition to the information below, attach documentation of department and college approval. This typically takes the form of meeting minutes but may also be an email from the unit head reporting department- and college-level votes.

	Reviewing Group Name	Date Approved	Contact Person Name/Phone/Email
7a	(Within College)		
			/ /
			/ /
			/ /
			/ /

7b	(Collaborating and/or Affected Units)		
			/ /
			/ /
			/ /
			/ /
			/ /

7c	(Senate Academic Council)	Date Approved	Contact Person Name
	Health Care Colleges Council (if applicable)		
	Undergraduate Council		