CHANGE UNDERGRADUATE PROGRAM FORM

1. General Information

College:	Engineering	Department:	Biosystems & Agricultural Engineering
Current Major Name:	Biosystems Engineering	*Proposed Major Name:*	____
Current Degree Title:	Biosystems Engineering	*Proposed Degree Title:*	____
Formal Option(s):	____	*Proposed Formal Option(s):*	____
Specialty Field w/in Formal Option:	____	*Proposed Specialty Field w/in Formal Options:*	____
Date of Contact with Associate Provost for Academic Administration[1]:	9/1/15		
Bulletin (yr & pgs):	15-16, 241-241	CIP Code[1]:	14.0301
Today's Date:	9/21/15		
Accrediting Agency (if applicable):	ABET (Accrediatiom Board for Engineering Technology)		
Requested Effective Date:	☒ Semester following approval.	OR	☐ Specific Date[2]: ____
Dept. Contact Person:	Czarena Crofcheck	Phone:	218-4349
Email:	crofcheck@uky.edu		

2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

Please list the courses/credit hours currently used to fulfill the University Studies/General Education curriculum:
Intellectual Inquiry in Arts and Creativity: BAE 402 (2) and BAE 403 (2)
Intellectual Inquiry in the Humanities: Choose one course from approved list (3)
Intellectual Inquiry in the Social Sciences: Choose one course from approved list (3)
Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences: PHY 231 (4) and PHY 241 (1)
Composition and Communication I: CIS/WRD 110 (3)
Composition and Communication II: CIS/WRD 111 (3)
Quantitative Foundations: MA 113 (4)
Statistical Inferential Reasoning: BAE 202 (3)
Community, Culture and Citizenship: Choose one course from approved list (3)
Global Dynamics: Choose one course from approved list (3)

Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.

	General Education Area		Course	Credit Hrs
I. Intellectual Inquiry (one course in each area)				
	Arts and Creativity		*BAE 402 & BAE 403*	*2 & 2*
	Humanities		*select from list*	*3*

[1] Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the (APAA) can provide you with that during the contact.

[2] Program changes are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

	Social Sciences		*select from list*	*3*
	Natural/Physical/Mathematical		*PHY 231 & PHY 241*	*4 & 1*
II. Composition and Communication				
	Composition and Communication I		CIS or WRD 110	3
	Composition and Communication II		CIS or WRD 111	3
III. Quantitative Reasoning (one course in each area)				
	Quantitative Foundations[3]		*MA 113*	*4*
	Statistical Inferential Reasoning		*BAE 202*	*3*
IV. Citizenship (one course in each area)				
	Community, Culture and Citizenship in the USA		*select from list*	*3*
	Global Dynamics		*select from list*	*3*
			Total General Education Hours	*34*

3. Explain whether the proposed changes to the program (as described in sections 4 to 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).

The proposed curriculum changes include the addition of EGR 101, 102 and 103, and the elimination of CS 221.

4. Explain how satisfaction of the University Graduation Writing Requirement will be changed.

Current		*Proposed*	
☐ Standard University course offering. List: _____		☐ *Standard University course offering. List: _____*	
☒ Specific course – list:	WRD 204	☒ *Specific course) – list:*	*WRD 204*

5. List any changes to college-level requirements that must be satisfied.

Current		*Proposed*	
☐ Standard college requirement. List: _____		☐ *Standard college requirement. List: _____*	
☐ Specific required course – list:	_____	☐ *Specific course – list:*	_____

6. List pre-major or pre-professional course requirements that will change, including credit hours.

Current	*Proposed*
CIS/WRD 110 [3]	*CIS/WRD 110 [3]*
CIS/WRD 111 [3]	*CIS/WRD 111 [3]*
CHE 105 [4]	*CHE 105 [4]*
CHE 107 [3]	*CHE 107 [3]*
PHY 231 [4]	*PHY 231 [4]*
PHY 241 [1]	*PHY 241 [1]*
PHY 232 [4]	
PHY 242 [1]	

[3] Note that MA 109 is NOT approved as a Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

MA 113 [4]	*MA 113 [4]*
MA 114 [4]	*MA 114 [4]*
MA 213 [4]	*MA 213 [4]*
MA 214 [3]	
CS 221 [2]	*BAE 201 [2]*
	BIO 148 [3]
EM 221 [3]	*CE 106 [3]*
	EGR 101 [1]
	EGR 102 [2] 1P
	EGR 103 [2] 1P

7. List the major's course requirements that will change, including credit hours.

Current	*Proposed*
BAE 102 [1]	
BAE 103	
BAE 201 [2]	
CE 106 [3]	
	MA 214 [3]
	PHY 232 [4]
BIO 148 [3]	*PHY 242 [1]*
BIO 152 [3]	*BIO 152 [3]*
BAE 202 [3]	*BAE 202 [3]*
BAE 305 [3]	*BAE 305 [3]*
BAE 400 [1]	*BAE 400 [1]*
BAE 402 [2]	*BAE 402 [2]*
BAE 403 [2]	*BAE 403 [2]*
CE 341 [3]	*CE 341 [3]*
EE 305 [3]	*EE 305 [3]*
ME 220 [3]	*ME 220 [3]*
ME 325 [3]	*ME 325 [3]*
ME 340 [3]	*ME 340 [3]*
	EM 221 [3]
EM 313 [3]	*EM 313 [3]*
EM 302 [3]	*EM 302 [3]*

8. Does the pgm require a minor AND does the proposed change affect the required minor? ☐ N/A ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*

9. Does the proposed change affect any option(s)? ☐ N/A ☐ Yes ☒ No

CHANGE UNDERGRADUATE PROGRAM FORM

If "Yes," indicate current courses and proposed changes below, including credit hours, and also specialties and subspecialties, if any.

Current	*Proposed*

10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*

11. Does the change affect pgm requirements for technical or professional support electives? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*

12. Does the change affect a minimum number of free credit hours or support electives? ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*

13. Summary of changes in required credit hours:

		Current	*Proposed*
a. Credit Hours of Premajor or Preprofessional Courses:		43	*43*
b. Credit Hours of Major's Requirements:		47	*47*
c. Credit Hours for Required Minor:			
d. Credit Hours Needed for a Specific Option:			
e. Credit Hours Outside of Major Subject in Related Field:			
f. Credit Hours in Technical or Professional Support Electives:		24	*24*
g. Minimum Credit Hours of Free/Supportive Electives:		3	*3*
h. Total Credit Hours Required by Level:	100:	27	*29*
	200:	33	*31*
	300:	22	*22*
	400-500:	14	*14*
i. Total Credit Hours Required for Graduation:		129	*132*

14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to that.

The proposed changes incorporate the new College of Engineering First-Year Engineering courses EGR 101, 102 and 103, remove BAE 102 and 103, and remove CS 221.

15. List below the typical semester by semester program for the major. If multiple options are available, attach a

CHANGE UNDERGRADUATE PROGRAM FORM

separate sheet for each option.

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* *CIS/WRD 111 3* *MA 114 4* *PHY 231 4* *PHY 241 1* *UK Core 3* *Total 17*
YEAR 2 - FALL :	BAE 201 2 BIO 148 3 MA 213 4 CHE 107 3 UK Core 3 CE 106 3 Total 18	**YEAR 2 – SPRING:**	*BAE 202 3* *MA 214 3* *ME 220 3* *EM 221 3* *PHY 232 4* *PHY 242 1* *Total 17*
YEAR 3 - FALL:	CE 341 4 EE 305 3 EM 313 3 BIO 152 3 WRD 204 3 Total 16	**YEAR 3 - SPRING:**	*ME 325 3* *BAE 305 3* *EM 302 3* *Bio Sci Elective 3* *Core Elective 3* *Total 15*
YEAR 4 - FALL:	BAE 402 2 BAE 400 1 Core or Tech Elective 3 Core or Tech Elective 3 Core or Tech Elective 3 Tech Elective 3 UK Core 3 Total 18	**YEAR 4 - SPRING:**	*BAE 403 2* *ME 340 3* *Core or Tech Elective 3* *Core or Tech Elective 3* *UK Core 3* *Supporting Elective 3* *Total 17*

CHANGE UNDERGRADUATE PROGRAM FORM

Signature Routing Log

General Information:

Current Degree Title and Major Name: Biosystems Engneering

Proposal Contact Person Name: Czarena Crofcheck Phone: 218-4349 Email: crofcheck@uky.edu

INSTRUCTIONS:
Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
BAE Faculty	8/19/2015	Sue Nokes / 8-4328 / sue.nokes@uky.edu	Sue E. Nokes
COE Faculty	10/22/15	Kimberly Anderson / 7-1804 / Kimberly.anderson@uky.edu	
		/ /	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[4]
Undergraduate Council	12/15/15	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[4] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

Bachelor of Science in Biosystems Engineering

Common First Year

Freshman Year

First Semester		Second Semester	
EGR 101	1	EGR 103	2
EGR 102	2	MA 114 Calculus II	4
CHE 105 Gen College Chemistry I	4	UK Core (Composition and Comm II)	3
UK Core (Composition and Comm I)	3	PHY 231 General Physics	4
MA 113 Calculus I	4	PHY 241 General Physics Lab	1
		UK Core	3
Semester Hours	14	Semester Hours	17

Sophomore Year

First Semester		Second Semester	
BAE 201 Economic Analysis for Biosystems	2	BAE 202 Statistical Inference for Biosystems (UK Co	3
BIO 148 Principles of Biology I	3	MA 214 Calculus IV	3
MA 213 Calculus III	4	ME 220 Thermodynamics	3
CHE 107 Gen College Chemistry II	3	PHY 232 General Univ Physics II	4
UK Core	3	PHY 242 General Univ Physics II Lab	1
CE 106 Computer Graphics	3	EM 221 Statics	3
Semester Hours	18	Semester Hours	17

Junior Year

First Semester		Second Semester	
CE 341 Fluid Dynamics	4	ME 325 Heat Transfer	3
EE 305 Electrical Circuits	3	BAE 305 DC Circuits and Microelectronics	3
EM 313 Dynamics	3	EM 302 Strength of Materials	3
Bio 152 Principles of Biology II	3	Bio Sci Elective	3
WRD 204 Technical Writing	3	Core Elective	3
Semester Hours	16	Semester Hours	15

Senior Year

First Semester		Second Semester	
BAE 400 Senior Seminar	1	BAE 403 Biosystems Engr. Design II	2
BAE 402 Biosystems Engr. Design I	2	ME 340 Introduction to Mechanical Systems	3
Core or Tech Elective	3	UK Core	3
Core or Tech Elective	3	Core or Tech Elective	3
Core or Tech Elective	3	Core or Tech Elective	3
Tech Elective	3	Supporting Elective	3
UK Core	3		
Semester Hours	18	Semester Hours	17

This is only to be used as an illustrative schedule.

Advisor should be seen every semester.

Some classes are not available every semester.

C - Core course (9 credits)

TE - Technical Electives (12 credits)

BE - Biological Science Elective (3 credits)

Total	132

Biosystems Engineering
Engineering Standing Requirements

Current Requirements:

Completion of a minimum of 35 semester hours acceptable towards the degree in biosystems engineering with a minimum cumulative grade-point average of 2.50. Completion of CIS/WRD 110, MA 113, MA 114, MA 213, CHE 105 and PHY 231 with a minimum cumulative GPA of 2.50 in these courses. University repeat options may be utilized as appropriate. Students who do not meet these GPA requirements may request consideration based upon departmental review if both of these GPA values are 2.25 or greater.

Proposed Requirements:

Completion of a minimum of 35 semester hours acceptable towards the degree in biosystems engineering with a minimum cumulative grade-point average of 2.50. Completion of CIS/WRD 110, MA 113, MA 114, MA 213, CHE 105 and PHY 231 with a minimum cumulative GPA of 2.50 in these courses. University repeat options may be utilized as appropriate. Students who do not meet these GPA requirements may request consideration based upon departmental review if both of these GPA values are 2.25 or greater.

(no changes)

Summary of changes

EGR 101 replaces BAE 102
EGR 102 replaces CS 211
EGR 103 replaces BAE 103

PHY 231/241 moved to freshman year, second semester (from sophomore year, first semester)
CHE 107 moved to sophomore year, first semester (from freshman year, second semester)
CE 106 moved to the sophomore year, first semester (from freshman year, second semester)
UK Core moved to freshman year, second semester
Other UK core classes moved to even out credits

College of Engineering
Biosystems and Agricultural Engineering
128 C. E. Barnhart Building
Lexington, KY 40546-0276
(859) 257-3000
Fax: (859) 257-5671
http://www.bae.uky.edu

October 1, 2015
Please find attached our Change of Undergraduate Program Form.

Basically, we are proposing to replace BAE 102 with EGR 101, replace CS 221 with EGR 102, and replace BAE 103 with EGR 103. The content in these new EGR classes are equally complimentary to our program as the class we are replacing. There is no change in the total number of credits required. There is no change in the requirements for engineering standing.

Please let me know if there are any questions.

Sincerely,

Czarena Crofcheck

Czarena Crofcheck, Ph. D., P.E.
BAE Director of Undergraduate Studies, Professor

Brandenburg, Barbara J

Subject: FW: Re: Enrollment changes due College of Engineering Curriculum Changes

Janet,
Thank you for making me aware of the impact of these changes.
I have discussed this with my Director of Undergraduate students Jurek Jaromczyk and with my faculty and we understand that these changes will have impact on the enrollment in our courses.
Best,
Brent

On Thu, Sep 24, 2015 at 12:06 PM, Janet K. Lumpp <jklumpp@uky.edu> wrote:

> Dr. Seales,
>
> As you know, the degree programs in the College of Engineering are all proposing undergraduate Curriculum Changes as a result of the First-Year Engineering courses and other departmental initiatives. I am writing to make you aware of the changes that will affect several Computer Science courses no earlier than the Fall 2016 semester. As part of the proposal package, we need to include a reply from you acknowledging that you are aware of the changes that will impact enrollment in these courses.
>
> CS 270 will be required for BS degrees in Computer Engineering
>
> CS 115 will no longer be required for BS degrees in Computer Engineering and Electrical Engineering
> CS 221 will no longer be required for BS degrees in Biosystems Engineering, Civil Engineering, Materials Engineering, Mechanical Engineering and Mining Engineering
> CS 441 will no longer be required for BS degrees in Computer Engineering
> CS 470 will no longer be required for BS degrees in Computer Engineering
>
> Please reply all at your earliest convenience.
> Thanks,
> Janet
>
> --
> Dr. Janet K. Lumpp - University of Kentucky
>
> Director, First-Year Engineering Program
> Professor, Electrical & Computer Engineering
> email: jklumpp@uky.edu
> phone: 859-257-4985

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CHANGE UNDERGRADUATE PROGRAM FORM

1. General Information

College:	Engineering	Department:	Chemical and Materials Engineering
Current Major Name:	Chemical Engineering	*Proposed Major Name:*	*Chemical Engineering*
Current Degree Title:	Bachelor of Science in Chemical Engineering	*Proposed Degree Title:*	*Bachelor of Science in Chemical Engineering*
Formal Option(s):	N/A	*Proposed Formal Option(s):*	*N/A*
Specialty Field w/in Formal Option:	N/A	*Proposed Specialty Field w/in Formal Options:*	*N/A*
Date of Contact with Associate Provost for Academic Administration[1]:	9/1/15		
Bulletin (yr & pgs):	2015-2016: Pages 242-43	CIP Code[1]:	14.0701
Today's Date:	9/21/15		
Accrediting Agency (if applicable):	ABET		
Requested Effective Date:	☒ Semester following approval.	OR	☐ Specific Date[2]: _____
Dept. Contact Person:	Barbara Knutson	Phone:	257-5715
Email:	bknut2@uky.edu		

2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

Please list the courses/credit hours currently used to fulfill the University Studies/General Education curriculum:
Intellectual Inquiry in Arts and Creativity: CME 455 [3]
Intellectual Inquiry in the Humanities: Choose one course from approved list [3]
Intellectual Inquiry in the Social Sciences: Choose one course from approved list [3]
Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences: CHE 105 [4] and CHE 111 [1]
Composition and Communication I: CIS/WRD 110 [3]
Composition and Communication II: CIS/WRD 111 [3]
Quantitative Foundations: MA 113 [4]
Statistical Inferential Reasoning: STA 210 [3]
Community, Culture and Citizenship in the USA: Choose one course from approved list [3]
Global Dynamics: Choose one course from approved list [3]

Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.

General Education Area		**Course**	**Credit Hrs**
I. Intellectual Inquiry (one course in each area)			
Arts and Creativity		*CME 455*	*3*

[1] Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the (APAA) can provide you with that during the contact.

[2] Program changes are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

	Humanities		*choose from list*	*3*
	Social Sciences		*choose from list*	*3*
	Natural/Physical/Mathematical		*CHE 105 & 111*	*5*
II. Composition and Communication				
	Composition and Communication I		CIS or WRD 110	3
	Composition and Communication II		CIS or WRD 111	3
III. Quantitative Reasoning (one course in each area)				
	Quantitative Foundations[3]		*MA 113*	*4*
	Statistical Inferential Reasoning		*STA 381*	*3*
IV. Citizenship (one course in each area)				
	Community, Culture and Citizenship in the USA		*choose from list*	*3*
	Global Dynamics		*choose from list*	*3*
			Total General Education Hours	*33*

3. Explain whether the proposed changes to the program (as described in sections 4 to 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).

Proposed curriculum includes components of College of Engineering first-year sequence: EGR 101, 102,103. In addition, proposed curriculum includes changes to the structure of the required electives. Currently, a chemistry elective is a required component of the curriculum, as well as a biology or materials elective. In the new curriculum, science/math, engineering and chemical engineering electives are required. Also, PHY 241 has been removed and STA 381 will now be a required course, replacing STA 210.

4. Explain how satisfaction of the University Graduation Writing Requirement will be changed.

Current		*Proposed*	
☐ Standard University course offering. List: _____		☐ *Standard University course offering. List: _____*	
☒ Specific course – list:	WRD 204	☒ *Specific course) – list:*	*WRD 204*

5. List any changes to college-level requirements that must be satisfied.

Current		*Proposed*	
☐ Standard college requirement. List: _____		☐ *Standard college requirement. List: _____*	
☐ Specific required course – list:	_____	☐ *Specific course – list:*	_____

6. List pre-major or pre-professional course requirements that will change, including credit hours.

Current	*Proposed*
CIS/WRD 110 [3]	*CIS/WRD 110 [3]*
CIS/WRD 111 [3]	*CIS/WRD 111 [3]*
CHE 105 [4]	*CHE 105 [4]*
CHE 107 [3]	*CHE 107 [3]*
CHE 111 [1]	*CHE 111 [1]*

[3] Note that MA 109 is NOT approved as a Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

CHE 113 [2]	*CHE 113 [2]*
CME 200 [3]	*CME 200 [3]*
MA 113 [4]	*MA 113 [4]*
MA 114 [4]	*MA 114 [4]*
MA 213 [4]	*MA 213 [4]*
PHY 231 [4]	*PHY 231 [4]*
PHY 241 [1]	
	EGR 101 [1]
	EGR 102 [2]
	EGR 103 [2]
	MSE 201 [3]

7. List the major's course requirements that will change, including credit hours.

Current	*Proposed*
CME 101 [1]	
CHE 230 [3]	*CHE 230 [3]*
CHE 231 [1]	*CHE 231 [1]*
CHE 232 [3]	*CHE 232 [3]*
CHE 446G [3]	*CHE 446G [3]*
MA 214 [3]	*MA 214 [3]*
PHY 232 [4]	*PHY 232 [4]*
MSE 201 [3]	
CME 220 [3]	*CME 220 [3]*
CME 320 [4]	*CME 320 [4]*
CME 415 [3]	*CME 415 [3]*
CME 006 (3 semesters) [0]	*CME 006 (3 semesters) [0]*
CME 330 [3]	*CME 330 [3]*
CME 470 [2]	*CME 470 [2]*
CME 420 [3]	*CME 420 [3]*
CME 425 [4]	*CME 425 [4]*
CME 432 [2]	*CME 432 [2]*
CME 433 [3]	*CME 433 [3]*
CME 455 [3]	*CME 455 [3]*
CME 550 [3]	*CME 550 [3]*
CME 456 [4]	*CME 456 [4]*
CME 462 [3]	*CME 462 [3]*

8. Does the pgm require a minor AND does the proposed change affect the required minor? ☒ N/A ☐ Yes ☐ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*

9. Does the proposed change affect any option(s)? ☒ N/A ☐ Yes ☐ No

If "Yes," indicate current courses and proposed changes below, including credit hours, and also specialties and subspecialties, if any.

Current	*Proposed*

CHANGE UNDERGRADUATE PROGRAM FORM

10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
____	____

11. Does the change affect pgm requirements for technical or professional support electives? ☒ Yes ☐ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
Chemical Engineering Electives [6] Chemistry Elective [3] Biology or Materials Elective [3] Technical Elective [3] TOTAL = 15 credits	*Chemical Engineering Electives [3-9]* *Science/Math Electives [3-6]* *Engineering Electives [0-6]* *TOTAL = 12 credits*

12. Does the change affect a minimum number of free credit hours or support electives? ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*
____	____

13. Summary of changes in required credit hours:

		Current	*Proposed*
a. Credit Hours of Premajor or Preprofessional Courses:		36	*43*
b. Credit Hours of Major's Requirements:		61	*57*
c. Credit Hours for Required Minor:		N/A	*N/A*
d. Credit Hours Needed for a Specific Option:		N/A	*N/A*
e. Credit Hours Outside of Major Subject in Related Field:		N/A	*N/A*
f. Credit Hours in Technical or Professional Support Electives:		15	*12*
g. Minimum Credit Hours of Free/Supportive Electives:		3	*3*
h. Total Credit Hours Required by Level:	100:	25	*29*
	200:	38	*34*
	300:	7	*10*
	400-500:	33	*33*
i. Total Credit Hours Required for Graduation:		133* Credit hrs. by level do not include UK core or elective requirements where level is unknown.	*133**

14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to

that.

See attached cover memo for a detailed description. The proposed changes add the College of Engineering first-year sequence EGR 101, 102 and 103, remove CME 101 and PHY 241, and replace STA 210 with STA 381. Also, the upper-level electives structure is revised to provide greater flexibility to students to pursue specific interests in science and engineering fields.

15. List below the typical semester by semester program for the major. If multiple options are available, attach a separate sheet for each option.

YEAR 1 – FALL: **(e.g. "BIO 103; 3 credits")**	CIS/WRD 110 [3] MA 113 [4] EGR 101 [1] EGR 102 [2] CHE 105 [4] CHE 111 [1]	**YEAR 1 – SPRING:**	*CIS/WRD 111 [3]* *MA 114 [4]* *EGR 103 [2]* *PHY 231 [4]* *UK Core [3]*
YEAR 2 - FALL :	CME 200 [3] MA 213 [4] CHE 107 [3] CHE 113 [2] MSE 201 [3] UK Core [3]	**YEAR 2 – SPRING:**	*CME 320 [4]* *CME 220 [3]* *MA 214 [3]* *PHY 232 [4]* *STA 381 [3]*
YEAR 3 - FALL:	CME 415 [3] CME 330 [3] CHE 446G [3] CHE 230 [3] CHE 231 [1] WRD 204 [3]	**YEAR 3 - SPRING:**	*CME 006 [0]* *CME 420 [3]* *CME 425 [4]* *CME 432 [2]* *CHE 232 [3]* *Eng/Science Elective [3]* *UK Core [3]*
YEAR 4 - FALL:	CME 006 [0] CME 470 [2] CME 433 [3] CME 455 [3] CME 550 [3] UK Core [3] Eng/Science Elective [3]	**YEAR 4 - SPRING:**	*CME 006 [0]* *CME 456 [4]* *CME 462 [3]* *Eng/Science Elective [3]* *Eng/Science Elective [3]* *Supportive Elective [3]*

CHANGE UNDERGRADUATE PROGRAM FORM

Signature Routing Log

General Information:

Current Degree Title and Major Name: Bachelor of Science in Chemical Engineering

Proposal Contact Person Name: Barbara Knutson Phone: 257-5715 Email: bknut2@uky.edu

INSTRUCTIONS:
Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
CME Faculty	8/26/15	Douglass Kalika / 7-5507 / douglass.kalika@uky.edu	
COE Faculty	10/22/15	Kimberly Anderson / 7-1864 / kimberly.anderson@uky.edu	
		/ /	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[4]
Undergraduate Council	12/15/15	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[4] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

Fall 2015

PROPOSED CHANGE IN UNDERGRADUATE PROGRAM

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

SUBMITTED BY: PROF. BARBARA KNUTSON

ENGINEERING STANDING REQUIREMENTS

Current Requirements:

Chemical Engineering: Completion of CHE 105, CHE 107, CHE 111, CHE 113, MA 113, MA 114, MA 213, PHY 231, PHY 241, CIS/WRD 110 with a minimum cumulative grade-point average of 2.50 in these courses. Completion of CME 200 with a grade of C or better. University repeat options may be applied as appropriate.

Proposed Requirements:

Chemical Engineering: Completion of CHE 105, CHE 107, CHE 111, CHE 113, MA 113, MA 114, MA 213, PHY 231, CIS/WRD 110 with a minimum cumulative grade-point average of 2.50 in these courses. Completion of CME 200 with a grade of C or better. University repeat options may be applied as appropriate.

(note removal of PHY 241)

September 9, 2015

PROPOSED CHANGE IN UNDERGRADUATE PROGRAM BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING SUBMITTED BY: PROF. BARBARA KNUTSON

OVERVIEW:

The Department of Chemical and Materials Engineering submits proposed curriculum changes to the Bachelor of Science degree in Chemical Engineering. The proposed changes have been initiated to incorporate the components of the College of Engineering's first-year sequence, which is comprised of a total of five credits at the 100-level, as follows:

EGR 101 Engineering Exploration I [1 credit]

EGR 102 Fundamentals of Engineering Computing [2 credits]

EGR 103 Engineering Exploration II [2 credits]

The incorporation of EGR 101, 102 and 103 will result in the elimination of CME 101 – *Introduction to Chemical Engineering,* as much of the content in this course will be covered in EGR 101. In addition, the faculty in the Department of Chemical and Materials Engineering have elected to remove PHY 241 - *General University Physics Laboratory I.* A number of the beneficial elements encompassed in PHY 241 (coordinated teamwork and technical report generation) will be addressed in an engineering context in EGR 103.

STA 381 (*Engineering Statistics*) will now be a requirement for satisfaction of the UK Core component in Statistical Inferential Reasoning. This will replace the prior requirement of STA 210 (*Making Sense of Uncertainty: An Introduction to Statistical Reasoning*).

As part of the proposed changes in the curriculum, the upper-level electives structure will be revised to provide greater flexibility to students to pursue specific interests in science and engineering fields. The new electives structure will result in a net reduction of three credits in the electives required for the degree.

The introduction of the various changes outlined above will result in no net change to the total number of hours required for the BS degree in Chemical Engineering, which will remain at 133 hours.

DETAILS OF THE PROPOSED CHANGES:

Please refer to the proposed (semester-by-semester) course sequence, attached.

The following required courses will be added to the BSChE curriculum:

EGR 101 Engineering Exploration I	[1]
EGR 102 Fundamentals of Engineering Computing	[2]
EGR 103 Engineering Exploration II	[2]
STA 381 Engineering Statistics	[3]

The following required courses will be removed from the BSChE curriculum:

CME 101 Introduction to Chemical Engineering	[1]
PHY 241 General University Physics Laboratory I	[1]
STA 210 An Introduction to Statistical Reasoning	[3]

The current elective structure for the BSChE degree is detailed in the University Bulletin:

Chemical Engineering Electives Hours **[6]**

Total of 6 credit hours must be chosen. Courses recommended are listed below. Other courses may be considered, each on its individual merit. CME 395 (Research) may count for one elective, but not both. CME 395, 404G, 505, 515, 542, 554, 556, 580, 599.

Technical Electives **[3]**

Select one (must be a 3 or more credit hour course) from the following:

CME 395, 404G, 505, 515, 542, 554, 556, 580, 599; CHE 226, 510 and above; CS 321 and above; MA 321, 322, 416G, 432G, 433G, 471G, 481G; PHY any above 241; STA 381 and higher; BCH 401G; MSE 301, 401G, 402G, 403G; any BIO 148 and above; any engineering course above that required, e.g. above ME 330.

Chemistry Elective **[3]**

CHE 226, 250, 510 and above (if not taken as technical elective). Students may also use CHE 395 with departmental approval.

Bio or Materials Elective **[3]**

BIO 148 and above; MSE 301 and above (if not taken as technical elective).

Supportive Elective **[3]**

The proposed elective structure is presented below and is intended to provide chemical engineering students with greater freedom to select a group of chemical engineering electives, engineering electives, and science/math electives that best matches their interests and career goals. As part of the proposed revision, the total number of elective credits will be reduced by three hours as compared to the current BSChE curriculum.

Proposed Electives Structure:

Engineering/science electives (totaling three or more credit hours for each course) **[12]**

Students must select four courses, as follows:

1. One chemical engineering elective (CME 395*, 404G, 505, 515, 542, 554, 556, 580, 599)

2. One science/math elective (totaling three or more credit hours†) that is not a more elementary version of a required course.
   a. Math (MA 321, 322, 416G, 432G, 433G, 471G, 481G)
   b. Chemistry (CHE 226, 250, 510 and above)
   c. Biology (BIO 148 and above)
   d. Physics (PHY 241 and above)
   e. other courses by approval of Director of Undergraduate Studies

3. One engineering elective (level 300 and above) that does not significantly duplicate content in a core chemical engineering course (*e.g.* ME 330) OR a CME elective (CME 395 and above).

4. One chemical engineering elective (CME 395 and above) OR one engineering elective (level 300 and above) OR one science/math elective as described above.

* CME 395 (3 credits) can be used to satisfy only one elective requirement.

†Students may combine multiple qualifying courses that total 3 credits (e.g. pre-medical students may wish to combine PHY 241, 242 and CHE 233).

Supportive Elective **[3]**

The supportive elective can be any course that carries college credit and is not a more elementary version of a required course. The student completing 3 co-op tours (EGR 399) may count the co-op experience toward the supportive elective.

Impact of Proposed Changes on Accreditation:

ABET accreditation requires the following with respect to the curriculum:

The curriculum requirements specify subject areas appropriate to engineering but do not prescribe specific courses. The faculty must ensure that the program curriculum devotes adequate attention and time to each component, consistent with the outcomes and objectives of the program and institution. The professional component must include:

(a) **one year** of a combination of college level mathematics and basic sciences (some with experimental experience) appropriate to the discipline. Basic sciences are defined as biological, chemical, and physical sciences.

(b) **one and one-half years of engineering topics,** consisting of engineering sciences and engineering design appropriate to the student's field of study.

(c) a **general education component** that complements the technical content of the curriculum and is consistent with the program and institution objectives.

Students must be prepared for engineering practice through a curriculum culminating in a major design experience based on the knowledge and skills acquired in earlier course work and incorporating appropriate engineering standards and multiple realistic constraints.

One year is the lesser of 32 semester hours (or equivalent) or one-fourth of the total credits required for graduation.

The proposed BSChE curriculum readily satisfies all aspects of the ABET curriculum requirement (re: Table).

	Math/Science	Engineering	Gen. Education	Other
ABET Requirement	32	48	N/A	N/A
Current BSChE Curriculum	50	53	24	6
Proposed BSChE Curriculum	49	55	21	8

Impact of Proposed Changes on Total Credits for BSChE Degree:

Current curriculum: **133 credits**

Proposed curriculum: **133 credits**

Bachelor of Science in Chemical Engineering Curriculum

[Proposed]

FRESHMAN YEAR			
First Semester		Second Semester	
CIS/WRD 110 Comp. and Commun. I	3	CIS/WRD 111 Comp. and Commun. II	3
MA 113 Calculus I	4	MA 114 Calculus II	4
EGR 101 Engineering Exploration I	1	EGR 103 Engineering Exploration II	2
EGR 102 Fundamentals of Eng. Computing	2	PHY 231 General University Physics I	4
CHE 105 General College Chemistry I	4	UK Core - 1	3
CHE 111 Chemistry Lab I	1		16
	15		
SOPHOMORE YEAR			
First Semester		Second Semester	
CME 200 Process Principles	3	CME 320 Engineering Thermodynamics	4
MA 213 Calculus III	4	CME 220 Comp. Tools in Chemical Engr.	3
CHE 107 General College Chemistry II	3	MA 214 Calculus IV	3
CHE 113 Chemistry Lab II	2	PHY 232 General University Physics II	4
MSE 201 Materials Science	3	STA 381 Engineering Statistics	3
UK Core - 2	3		17
	18		
JUNIOR YEAR			
First Semester		Second Semester	
CME 415 Separation Processes	3	CME 006 Engineering Profession	0
CME 330 Fluid Mechanics	3	CME 420 Process Modeling	3
CHE 446G Physical Chemistry	3	CME 425 Heat and Mass Transfer	4
CHE 230 Organic Chemistry I	3	CME 432 Chemical Engineering Lab I	2
CHE 231 Organic Chemistry Lab I	1	CHE 232 Organic Chemistry II	3
WRD 204 Technical Writing *(GCCR)*	3	Eng/Science Elective - 1	3
	16	UK Core – 3	3
			18
SENIOR YEAR			
First Semester		Second Semester	
CME 006 Engineering Profession	0	CME 006 Engineering Profession	0
CME 470 Professionalism, Ethics & Safety	2	CME 456 Chemical Engr. Process Design II	4
CME 433 Chemical Engineering Lab II	3	CME 462 Process Control	3
CME 455 Chemical Engr. Process Design I	3	Eng/Science Elective - 3	3
CME 550 Chemical Reactor Design	3	Eng/Science Elective - 4	3
UK Core – 4	3	Supportive Elective	3
Eng/Science Elective - 2	3		16
	17		

UK CORE (four classes not covered in required courses) : Humanities, Social Sciences, Global Dynamics, Community/Culture/Citizenship

TOTAL HOURS = 133

Bachelor of Science In Chemical Engineering Curriculum

[Current]

FRESHMAN YEAR			
First Semester		Second Semester	
CME 101 Introduction to Chemical Engineering	1	MSE 201 Materials Science	3
CHE 105 General College Chemistry I	4	CHE 107 General College Chemistry II	3
CHE 111 Chemistry Lab	1	CHE 113 Chemistry Lab	2
MA 113 Calculus I	4	MA 114 Calculus II	4
CIS/WRD 110 Comp. and Commun. I	3	CIS/WRD 111 Comp. and Commun. II	3
UK Core– Humanities	3		15
	16		
SOPHOMORE YEAR			
First Semester		Second Semester	
CME 200 Process Principles	3	CME 320 Engineering Thermodynamics	4
MA 213 Calculus III	4	CHE 232 Organic Chemistry II	3
PHY 231 General University Physics	4	CME 220 Comp. Tools in Chemical Engr.	3
PHY 241 General Physics Lab	1	MA 214 Calculus IV	3
CHE 230 Organic Chemistry I	3	PHY 232 General University Physics	4
CHE 231 Organic Chemistry Lab I	1		17
	16		
JUNIOR YEAR			
First Semester		Second Semester	
CME 415 Separation Processes	3	CME 006 Engineering Profession	0
CHE 446G Physical Chemistry	3	CME 420 Process Modeling	3
CME 330 Fluid Mechanics	3	CME 425 Heat and Mass Transfer	4
WRD 204 Technical Writing *(GCCR)*	3	CME 432 Chemical Engineering Lab I	2
STA 210 Statistics	3	Supportive Elective	3
Technical Elective	3	Chemistry Elective	3
	18	UK Core – Social Sciences	3
			18
SENIOR YEAR			
First Semester		Second Semester	
CME 006 Engineering Profession	0	CME 006 Engineering Profession	0
CME 470 Professionalism, Ethics & Safety	2	CME 456 Chemical Engr. Process Design II	4
CME 433 Chemical Engineering Lab II	3	CME 462 Process Control	3
CME 455 Chemical Engr. Process Design I	3	CME Elective	3
CME 550 Chemical Reactor Design	3	Bio Elective or Materials Elective	3
UK Core – Global Dynamics	3	UK Core – Commun, Culture, Citizenship	3
CME Elective	3		16
	17		

TOTAL HOURS = 133

Brandenburg, Barbara J

From: Sumit Das <chair@pa.uky.edu>
Sent: Monday, September 28, 2015 11:29 AM
To: Lumpp, Janet K; DAS, SUMIT R
Cc: Anderson, Kimberly; Brandenburg, Barbara J
Subject: Re: Enrollment changes due College of Engineering Curriculum Changes

Dear Dr. Lumpp

Thank you for letting me know about the proposal. This is to let you know that I am aware of the changes in PHY 232, 241 and 242 requirements for engineering students. This will impact the enrollment in these courses significantly.

Best

Sumit Das

On 9/24/2015 3:18 PM, Janet K. Lumpp wrote:
> Dr. Das,
>
> The degree programs in the College of Engineering are all proposing
> undergraduate Curriculum Changes as a result of new common First-Year
> Engineering courses and other departmental initiatives. I am writing
> to make you aware of the changes that will affect several Physics
> courses no earlier than the Fall 2016 semester. As part of the
> proposal package, we need to include a reply from you acknowledging
> that you are aware of the changes that will impact enrollment in these
> courses.
>
> PHY 232 will no longer be required for BS degrees in Computer Science
> PHY 241 will no longer be required for the BS degree in Chemical
> Engineering PHY 242 will no longer be required for BS degrees in
> Computer Science
>
> Please reply all at your earliest convenience.
> Thanks,
> Janet
>

--
Sumit R. Das
Professor and Chair
Department of Physics and Astronomy
University of Kentucky
Lexington, KY 40506
Phone : 859-257-1328

Subject: RE: Changes to Statistic UK Core Requirement - Please respond to this one.
Date: Thursday, February 11, 2016 at 2:57:26 PM Eastern Standard Time
From: Stromberg, Arnold
To: Anderson, Kimberly, Rayens, William S
CC: Lumpp, Janet K

We approve of these changes.

Arnold J. Stromberg
Professor and Chair
Department of Statistics
University of Kentucky
313 Multidisciplinary Science Building
725 Rose Street
Lexington, KY 40536-0082
Phone: 859-257-6115
Fax: 859-323-1973

From: Anderson, Kimberly
Sent: Thursday, February 11, 2016 2:41 PM
To: Rayens, William S; Stromberg, Arnold
Cc: Lumpp, Janet K; Anderson, Kimberly
Subject: Changes to Statistic UK Core Requirement - Please respond to this one.

Hi Arny and Bill

Back in October, Janet Lumpp sent you an email regarding our changes to the Engineering curricula and I see where Arny responded saying that you are aware of the changes and will plan accordingly. We are now being told by the Senate Council that we need a more specific memo from you. As part of our curricular changes, we have 4 programs; Chemical Engineering, Materials Engineering, Electrical Engineering, and Computer Science who have made a change in their curricula that indicates that students are now REQUIRED to take STA 381 for the UK Core Statical Inferential Reasoning. Specifically, the changes are as follow;

Chemical Engineering: Changing UK Core Statical Inferential Reasoning from STAT 210 to STA 381
Materials Engineering: Changing UK Core Statical Inferential Reasoning from STAT 210 to STA 381

Electrical Engineering: Changing UK Core Statical Inferential Reasoning from "Choose one course from approved list" to STA 381
Computer Science: Changing UK Core Statical Inferential Reasoning from "Choose one course from approved list" to STA 381

If you are ok with these changes, please respond back and say you approve.

Thank you!
Kim

****

Dr. Kimberly Anderson, Associate Dean for Administration and Academic Affairs
Professor, Chemical Engineering
College of Engineering
University of Kentucky
371 Ralph G Anderson Building | Lexington, KY 40506-0030 | office 859.257.1864 | fax 859.257.5727
email kimberly.anderson@uky.edu | web http://www.engr.uky.edu

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CHANGE UNDERGRADUATE PROGRAM FORM

1. General Information

College:	Engineering	Department:	Electrical and Computer Engineering
Current Major Name:	Computer Engineering	*Proposed Major Name:*	*Computer Engineering*
Current Degree Title:	BSCOE	*Proposed Degree Title:*	*BSCOE*
Formal Option(s):	____	*Proposed Formal Option(s):*	____
Specialty Field w/in Formal Option:	____	*Proposed Specialty Field w/in Formal Options:*	____

Date of Contact with Associate Provost for Academic Administration[1]:	9/1/15				
Bulletin (yr & pgs):	2105-16, pg 245-6	CIP Code[1]:	14.0901	Today's Date:	9/21/15
Accrediting Agency (if applicable):	ABET				
Requested Effective Date:	☒ Semester following approval.	OR	☐ Specific Date[2]:	____	
Dept. Contact Person:	James E. Lumpp, Jr.	Phone:	257-3895	Email:	jel@uky.edu

2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

Please list the courses/credit hours currently used to fulfill the University Studies/General Education curriculum:
Intellectual Inquiry in Arts and Creativity: EE 101 (3)
Intellectual Inquiry in the Humanities: Choose one course from approved list (3)
Intellectual Inquiry in the Social Sciences: Choose one course from approved list (3)
Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences: PHY 231 (4) and PHY 241 (1)
Composition and Communication I: CIS/WRD 110 (3)
Composition and Communication II: CIS/WRD 111 (3)
Quantitative Foundations: MA 113 (4)
Statistical Inferential Reasoning: STA 381 (3)
Community, Culture and Citizenship: Choose one course from approved list (3)
Global Dynamics: Choose one course from approved list (3)

Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.

	General Education Area		**Course**	**Credit Hrs**
I. Intellectual Inquiry (one course in each area)				
	Arts and Creativity		*EGR101;EGR 103*	*3*
	Humanities		*Choose from approved list*	*3*

[1] Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the (APAA) can provide you with that during the contact.

[2] Program changes are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

	Social Sciences	*Choose from approved list*	*3*
	Natural/Physical/Mathematical	*PHY 231, PHY 241*	*5*
II. Composition and Communication			
	Composition and Communication I	CIS or WRD 110	3
	Composition and Communication II	CIS or WRD 111	3
III. Quantitative Reasoning (one course in each area)			
	Quantitative Foundations[3]	*MA 113*	*4*
	Statistical Inferential Reasoning	*STA 381*	*3*
IV. Citizenship (one course in each area)			
	Community, Culture and Citizenship in the USA	*Choose from approved list*	*3*
	Global Dynamics	*Choose from approved list*	*3*
		Total General Education Hours	*33*

3. Explain whether the proposed changes to the program (as described in sections 4 to 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).

The proposed curriculum change includes the addition of EGR 101, 102 and 103, addition of CS 270 and elimination of CS 115, 441 and 470.

4. Explain how satisfaction of the University Graduation Writing Requirement will be changed.

Current		*Proposed*	
☐ Standard University course offering. List: _____		☐ *Standard University course offering. List: _____*	
☒ Specific course – list:	CPE 490	☒ *Specific course) – list:*	*CPE 490*

5. List any changes to college-level requirements that must be satisfied.

Current		*Proposed*	
☐ Standard college requirement. List: _____		☐ *Standard college requirement. List: _____*	
☐ Specific required course – list:	_____	☐ *Specific course – list:*	_____

6. List pre-major or pre-professional course requirements that will change, including credit hours.

Current	*Proposed*
CIS/WRD 110; 3 credits CS 115 ; 3 credits CS 215 ; 4 credits EE 211 ; 4 credits	*CIS/WRD 110; 3 credits* *CIS/WRD 111; 3 credits* *CS 215; 4 credits* *CS 216; 3 credits*

[3] Note that MA 109 is NOT approved as a Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

EE 280 ; 3 credits	
	CPE 282; 4 credits
MA 113 ; 4 credits	*MA 113; 4 credits*
MA 114 ; 4 credits	*MA 114; 4 credits*
MA 213 ; 4 credits	*MA 213; 4 credits*
	CHE 105; 4 credits
PHY 231; 4 credits	*PHY 231; 4 credits*
	PHY 241; 1 credit
	PHY 232; 4 credits
	PHY 242; 1 credit
	EGR 101; 1 credit
	EGR 102; 2 credits
	EGR 103; 2 credits

7. List the major's course requirements that will change, including credit hours.

Current	*Proposed*
EE 101; 3 credits	
CHE 105; 4 credits	
PHY 241; 1 credit	
PHY 232; 4 credits	
PHY 242; 1 ccredit	
MA 214; 3 credits	*MA 214; 3 credits*
CS 216; 3 credits	
	CS 270; 3 credits
CS 275; 4 credits	*CS 275; 4 credits*
CS 315; 3 credits	*CS 315; 3 credits*
CS 441G; 3 credits	
CS 470G; 3 credits	
	EE 211; 4 credits
EE 221; 3 credits	
EE 222; 2 credits	
EE 281; 1 credit	*EE 223; 4 credits*
EE 383; 3 credits	
	CPE 287; 4 credits
EE 421G; 3 credits	*EE 421G; 3 credits*
EE 461G; 3 credits	*EE 461G; 3 credits*
EE/CS 380; 3 credits	
	CPE 380; 3 credits
EE 480/CS 480G; 3 credits	
	CPE 480G; 3 credits
STA 381; 3 credits	*STA 381; 3 credits*
EE 490; 3 credits	
or CS 499; 3 credits	
EE 491; 3 credits	*CPE 490; 3 credits*
	CPE 491; 3 credits

8. Does the pgm require a minor AND does the proposed change affect the required minor? ☐ N/A ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*

CHANGE UNDERGRADUATE PROGRAM FORM

9. Does the proposed change affect any option(s)? ☐ N/A ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below, including credit hours, and also specialties and subspecialties, if any.

Current	*Proposed*

10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*

11. Does the change affect pgm requirements for technical or professional support electives? ☒ Yes ☐ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
EE/CS Technical Electives; 12 credits Technical Elective; 3 credits	*CPE Technical Electives; 9 credits* *Hardware/Software Electives; 6 credis* *Technical Elective; 6 credits*

12. Does the change affect a minimum number of free credit hours or support electives? ☒ Yes ☐ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*
Supportive Elective ; 6 credits	*Supportive Elective ; 3 credits*

13. Summary of changes in required credit hours:

		Current	*Proposed*
a. Credit Hours of Premajor or Preprofessional Courses:		33	*48*
b. Credit Hours of Major's Requirements:		63-66	*46*
c. Credit Hours for Required Minor:			
d. Credit Hours Needed for a Specific Option:			
e. Credit Hours Outside of Major Subject in Related Field:			
f. Credit Hours in Technical or Professional Support Electives:		15	*21*
g. Minimum Credit Hours of Free/Supportive Electives:		6	*3*
h. Total Credit Hours Required by Level:	100:	24	*24*
	200:	42	*47*
	300:	12	*9*
	400-500:	21	*9*
i. Total Credit Hours Required for Graduation:		129	*130*

14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to that.

CHANGE UNDERGRADUATE PROGRAM FORM

Incorporation of new First Year Engineering Program course sequence. Combining lecture and associated laboratory courses into one course number. Addition of CS270. Moving EE383 to EE287. Replacing requirements for CS441 and CS470 with electives. Restructuring of techincal and engineering electives.

15. List below the typical semester by semester program for the major. If multiple options are available, attach a separate sheet for each option.

YEAR 1 – FALL: **(e.g. "BIO 103; 3 credits")**	EGR 101; 1 credit EGR 102; 2 credits MA 113; 4 credits CHE 105; 4 credits CIS/WRD 110; 3 credits	**YEAR 1 – SPRING:**	*EGR 103; 2 credits* *MA 114; 4 credits* *PHY 231; 4 credits* *PHY 241; 1 credit* *CIS/WRD 111; 3 credits* *CS 215; 4 credits*
YEAR 2 - FALL :	MA 213; 4 credits PHY 232; 4 credits PHY 242; 1 credit CS 216; 3 credits CPE 282; 4 credits	**YEAR 2 – SPRING:**	*MA 214; 3 credits* *EE 211; 4 credits* *CPE287; 4 credits* *CS 270; 3 credits* *CS275; 4 credits*
YEAR 3 - FALL:	EE 223; 4 credits CS 315; 3 credits CPE380; 3 credits STA 381; 3 credits UK Core; 3 credits	**YEAR 3 - SPRING:**	*EE 421G; 3 credits* *EE461G; 3 credits* *Technical Elective; 3 credits* *CPE480; 3 credits* *CPE Elective; 3 credits* *UK Core; 3 credits*
YEAR 4 - FALL:	CPE 490; 3 credits CPE Elective; 3 credits Technical Elective; 3 credits Supportive Elective; 3 credits UK Core; 3 credits	**YEAR 4 - SPRING:**	*CPE 491; 3 credits* *HW Elective; 3 credit* *SW Elective; 3 credit* *CPE Elective; 3 credits* *UK Core; 3 credits*

CHANGE UNDERGRADUATE PROGRAM FORM

Signature Routing Log

General Information:

Current Degree Title and Major Name: Bachelor of Science in Computer Engineering, Computer Engineering

Proposal Contact Person Name: James E. Lumpp, Jr. Phone: 257-3895 Email: jel@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
CPE Committee	9/11/15	Lawrence Holloway / 3-8523 / larry.holloway@uky.edu	
COE Faculty	10/22/15	Kimberly Anderson / 7-1864 / kimberly.anderson@uky.edu	
		/ /	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[4]
Undergraduate Council	12/15/15	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[4] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

UNIVERSITY OF KENTUCKY

Department of Electrical and Computer Engineering
453 F. Paul Anderson Tower
Lexington, KY 40506-0046
Office: (859) 257-8042
Fax: (859) 257-3092
www.engr.uky.edu

Date: 9/18/2015

To: Janet Lumpp, Director UK FYE Program

From: James E. Lumpp, Jr. (jel@uky.edu, 7-3895)

RE: Computer Engineering Curriculum/FYE Program

The ECE Faculty meet 8/19/15 and 9/3/15 and the Computer Engineering Curriculum Committee convened meetings on 9/9/15 and 9/11/15 and agreed to the following changes to the Computer Engineering BS degree program to better serve the students in the Computer Engineering program:

- Approval of and incorporation of the First-Year Engineering Program as part of the Computer Engineering Degree Requirements
- Addition of the new CS 270 "Systems Programming" course to the Curriculum in place of one EE/CS Elective
- Replacement of CS470 with a CpE Elective.
- Replacement of CS441 with a CpE Elective.
- Reduced the number of hours of Supportive Elective from 6 hours to 3 hours
- Increased the number of hours of Technical Elective from 3 hours to 6 hours
- EE383 "Introduction to Embedded Systems" at 3 hours was changed to a new 4 hour EE287 course
- EE 221 "Circuits II" and EE222 "Circuits II Lab" were combined into a new 4 hours course EE223 "Circuits II"
- EE 280 "Design of Logic Circuits" and EE281 "Logical Design Laboratory" were combined into a new 4 hour course, EE282 "Digital Logic Design"
- One EE/CS Elective was converted into a Hardware Depth Electives
- One EE/CS Elective was converted into a Software Depth Electives
- One EE/CS Elective was converted into a CpE Elective
- Several minor changes to several 300, 400, and 500 level course prerequisites

As a result the number of hours total for the degree program was reduced from 132 to 130.

The current proposal is for Engineering Standing for Computer Engineering to change from including the following courses (total 33 hours):

CIS/WRD 110; 3 credits
CS 115 ; 3 credits
CS 215 ; 4 credits
EE 211 ; 4 credits
EE 280 ; 3 credits
MA 113 ; 4 credits
MA 114 ; 4 credits

MA 213 ; 4 credits
PHY 231; 4 credits

To instead include (total 34 hours):

CIS/WRD 110; 3 credits
CS 215; 4 credits
CS 216; 3 credits
CpE 282; 4 credits
MA 114; 4 credits
MA 213; 4 credits
CHE 105; 4 credits
PHY 231; 4 credits
PHY 232; 4 credits

Please let me know if I can provide any other information.

UNIVERSITY OF KENTUCKY

Computer Engineering

College of Engineering

Computer engineering involves modeling, design, implementation, testing, evaluation and integration of computer hardware and software to create computing systems. Computer engineers use both hardware concepts from electrical engineering and system software concepts from computer science. Graduates will be well prepared to work in areas such as digital logic design, computer organization/architecture and design, algorithm design and analysis, embedded systems, compilers, and operating systems. Elective options in the curriculum offer preparation in software engineering, databases, dependable systems, networking and communications, VLSI, graphics, image processing, visualization, artificial intelligence, and control systems. The program is offered through a partnership between the Department of Electrical and Computer Engineering and the Department of Computer Science.

Degree Requirements

In addition to fulfilling UK Core and College of Engineering requirements, students must complete the computer engineering curriculum. The following curriculum meets the requirements for the B.S. degree.

Freshman Year

First Semester	Hours
MA 113 Calculus I	4
EE 101 Creativity and Design in Electrical and Computer Engineering *(fulfills the UK Core Arts & Creativity requirement)*	3
CIS/WRD 110 Composition and Communication I	3
CHE 105 General College Chemistry I	4
CS 115 Introduction to Computer Programming	3
UK Core – Humanities	3

Second Semester	
EE 280 Design of Logic Circuits	3
MA 114 Calculus II	4
PHY 231 General University Physics	4
PHY 241 General University Physics Laboratory	1
CIS/WRD 111 Composition and Communication II	3

Sophomore Year

First Semester	Hours
CS 215 Introduction to Program Design, Abstraction, and Problem Solving Techniques	4
MA 213 Calculus III	4
EE 211 Circuits I	4
PHY 232 General University Physics	4
PHY 242 General University Physics Laboratory	1
EE 281 Logical Design Laboratory	2

Second Semester	
MA 214 Calculus IV	3
CS 275 Discrete Mathematics	4
CS 216 Introduction to Software Engineering Techniques	3
EE/CS 380 Microcomputer Organization	3
UK Core – Social Sciences	3

Junior Year

First Semester	Hours
EE 221 Circuits II	3
EE 222 Electrical Engineering Laboratory I	2
CS 315 Algorithm Design and Analysis	3
EE 383 Introduction to Embedded Systems	3
UK Core – Citizenship - USA	3
STA 381 Engineering Statistics – A Conceptual Approach	3

Second Semester	
EE 461G Introduction to Electronics	3
CS 470G Introduction to Operating Systems	3
EE 480/CS 480G Advanced Computer Architecture**	3
EE/CS Technical Elective††	3
EE 421G Signals and Systems	3

Senior Year

First Semester	Hours
CS 441G Compilers for Algorithmic Languages	3
EE 490 Electrical Engineering Capstone Design I**,†	3
EE/CS Technical Elective††	3
Supportive Elective*	3
Technical Elective†	3

Second Semester	
EE 491 Electrical Engineering Capstone Design II**,†	3
EE/CS Technical Electives††	6
Supportive Elective*	3
UK Core – Global Dynamics	3

**Supportive elective is to be chosen from any University courses, excluding more elementary versions of required courses, such as precalculus mathematics, MA 308, MA 310 or PHY 211.*

***EE 480/CS 480G is only taught in the spring semester. EE 490 is only taught in the fall semester. EE 491 is only taught in the spring semester.*

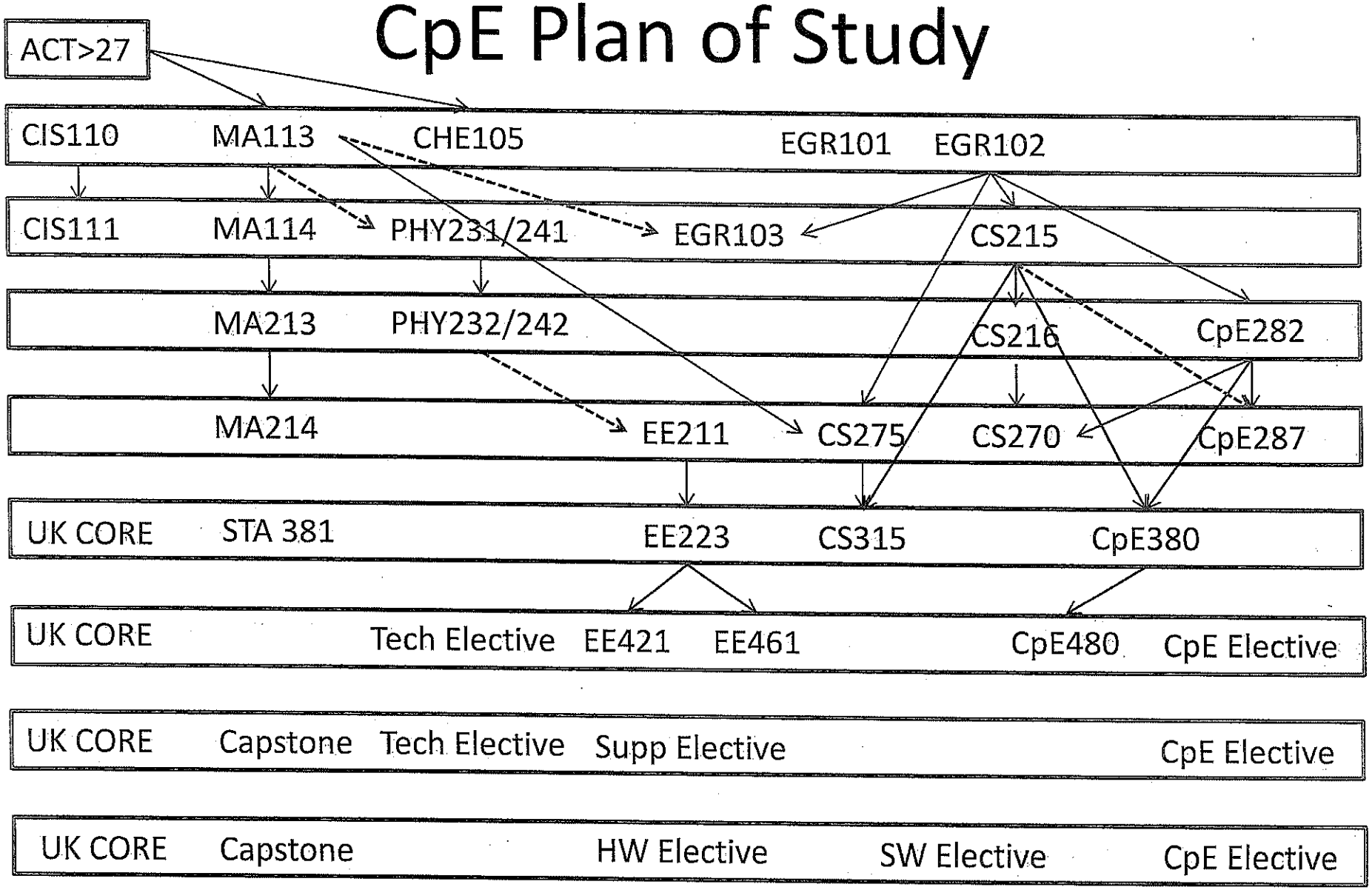
†Technical elective may be selected from upper-division engineering, mathematics, statistics, computer science, physics, or other technically-related fields excluding more elementary version of required courses. To be selected in consultation with academic advisor, if taken. CS 499 fulfills senior design and the GCCR. A technical elective course must be taken to fulfill the technical elective requirement if CS 499 is taken. EE 490 and EE 491 fulfill the technical elective, senior design and the GCCR.

††EE/CS technical electives are senior level courses in either the computer science or electrical engineering disciplines. These include 400-level CS courses and 500-level CS and EE courses with emphasis in the computer engineering area and excluding EE 595. To be selected in consultation with academic advisor.

Recommended EE/CS Technical Electives:

CS 405G Introduction to Database Systems
CS 415G Combinatorics and Graph Theory
CS 416G Principles of Operations Research I
CS 422 Numerical Solutions of Equations
CS 450G Fundamentals of Programming Languages
CS 463G Introduction to Artificial Intelligence
CS 471G Networking and Distributed Operating Systems
CS 485G Topics in Computer Science (Subtitle required)
EE 512 Digital Communication Systems
EE 560 Semiconductor Device Design
EE 564 Digital Electronic Circuits
EE 572 Digital Control of Dynamic Systems
EE 582 Hardware Description Languages and Programmable Logic
EE 584 Introduction of VLSI Design and Testing
EE 585 Fault Tolerant Computing
EE 586 Communication and Switching Networks
EE 587 Microcomputer Systems Design
EE 599 Topics in Electrical Engineering (Subtitle required)

CpE Plan of Study



CpE Plan of Study Hours

1st Fresh	CIS110 3	MA113 4	CHE105 4	EGR101 1	EGR102 2		14
2nd Fresh	CIS111 3	MA114 4	PHY231/241 5	EGR103 2	CS215 4		18
1st Soph		MA213 4	PHY232/242 5		CS216 3	CpE282 4	16
2nd Soph		MA214 3	EE211 4	CS270 3	CS275 4	CpE287 4	18
1st Junior	UK CORE 3	Prob/Stats 3	EE223 4		CS315 3	CpE380 3	16
2nd Junior	UK CORE 3	Tech Elective 3	EE421 3	EE461 3	CpE Elec 3	CpE480 3	18
1st Senior	UK CORE 3	Capstone 3	Tech Elective 3	Supp. Elec 3		CpE Elec 3	15
2nd Senior	UK CORE 3	Capstone 3		HW Elec 3	SW Elec 3	CpE Elec 3	15

UNIVERSITY OF KENTUCKY

Department of Electrical and Computer Engineering
453 F. Paul Anderson Tower
Lexington, KY 40506-0046
Office: (859) 257-8042
Fax: (859) 257-3092
www.engr.uky.edu

Date: 9/18/2015

To: UK Senate

From: James E. Lumpp, Jr.,(jel@uky.edu, 7-3895)

RE: Computer Engineering Degree Prefix

The College of Engineering is requesting the prefix "CPE" be established by the University of Kentucky for use with courses used in partial fulfillment of the graduation requirements for students pursuing the B.S. Computer Engineering degree. The CPE prefix will allow the College of Engineering and the Department of Electrical and Computer Engineering better communicate to students the core requirements for the degree and to better track cohorts of students as they progress through the program. This is critically important to the College for ABET accreditation that requires sufficient depth and breadth of "Engineering Topics" for degrees granted with the program name "Computer Engineering".

The UK College of Engineering voted and approved the degree program along with the CPE prefix and subsequently, the UK Senate and the state approved the Computer Engineering Degree program. Currently, the Department of Electrical and Computer Engineering is revising the Computer Engineering Degree Program in preparation for an ABET Accreditation Review in 2016.

Please feel free to contact me if you have any questions.

Sincerely,

James E. Lumpp, Jr.
Director of Undergraduate Studies
Computer Engineering
Professor
Electrical and Computer Engineering

Brandenburg, Barbara J

Subject: FW: Re: Enrollment changes due College of Engineering Curriculum Changes

Janet,
Thank you for making me aware of the impact of these changes.
I have discussed this with my Director of Undergraduate students Jurek Jaromczyk and with my faculty and we understand that these changes will have impact on the enrollment in our courses.
Best,
Brent

On Thu, Sep 24, 2015 at 12:06 PM, Janet K. Lumpp <jklumpp@uky.edu> wrote:

> Dr. Seales,
>
> As you know, the degree programs in the College of Engineering are all proposing undergraduate Curriculum Changes as a result of the First-Year Engineering courses and other departmental initiatives. I am writing to make you aware of the changes that will affect several Computer Science courses no earlier than the Fall 2016 semester. As part of the proposal package, we need to include a reply from you acknowledging that you are aware of the changes that will impact enrollment in these courses.
>
> CS 270 will be required for BS degrees in Computer Engineering
>
> CS 115 will no longer be required for BS degrees in Computer Engineering and Electrical Engineering
> CS 221 will no longer be required for BS degrees in Biosystems Engineering, Civil Engineering, Materials Engineering, Mechanical Engineering and Mining Engineering
> CS 441 will no longer be required for BS degrees in Computer Engineering
> CS 470 will no longer be required for BS degrees in Computer Engineering
>
> Please reply all at your earliest convenience.
> Thanks,
> Janet
>
> --
> Dr. Janet K. Lumpp - University of Kentucky
>
> Director, First-Year Engineering Program
> Professor, Electrical & Computer Engineering
> email: jklumpp@uky.edu
> phone: 859-257-4985

--

Subject: RE: Changes to Statistic UK Core Requirement - Please respond to this one.
Date: Thursday, February 11, 2016 at 2:57:26 PM Eastern Standard Time
From: Stromberg, Arnold
To: Anderson, Kimberly, Rayens, William S
CC: Lumpp, Janet K

We approve of these changes.

Arnold J. Stromberg
Professor and Chair
Department of Statistics
University of Kentucky
313 Multidisciplinary Science Building
725 Rose Street
Lexington, KY 40536-0082
Phone: 859-257-6115
Fax: 859-323-1973

From: Anderson, Kimberly
Sent: Thursday, February 11, 2016 2:41 PM
To: Rayens, William S; Stromberg, Arnold
Cc: Lumpp, Janet K; Anderson, Kimberly
Subject: Changes to Statistic UK Core Requirement - Please respond to this one.

Hi Arny and Bill

Back in October, Janet Lumpp sent you an email regarding our changes to the Engineering curricula and I see where Arny responded saying that you are aware of the changes and will plan accordingly. We are now being told by the Senate Council that we need a more specific memo from you. As part of our curricular changes, we have 4 programs; Chemical Engineering, Materials Engineering, Electrical Engineering, and Computer Science who have made a change in their curricula that indicates that students are now REQUIRED to take STA 381 for the UK Core Statical Inferential Reasoning. Specifically, the changes are as follow;

Chemical Engineering: Changing UK Core Statical Inferential Reasoning from STAT 210 to STA 381
Materials Engineering: Changing UK Core Statical Inferential Reasoning from STAT 210 to STA 381

Electrical Engineering: Changing UK Core Statical Inferential Reasoning from "Choose one course from approved list" to STA 381
Computer Science: Changing UK Core Statical Inferential Reasoning from "Choose one course from approved list" to STA 381

If you are ok with these changes, please respond back and say you approve.

Thank you!
Kim

****

Dr. Kimberly Anderson, Associate Dean for Administration and Academic Affairs
Professor, Chemical Engineering
College of Engineering
University of Kentucky
371 Ralph G Anderson Building | Lexington, KY 40506-0030 | office 859.257.1864 | fax 859.257.5727
email kimberly.anderson@uky.edu | web http://www.engr.uky.edu

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CHANGE UNDERGRADUATE PROGRAM FORM

1. General Information

College:	Engineering	Department:	Computer Science
Current Major Name:	Computer Science	*Proposed Major Name:*	*Computer Science*
Current Degree Title:	Bachelor of Science in Computer Science	*Proposed Degree Title:*	*Bachelor of Science in Computer Science*
Formal Option(s):	N/A	*Proposed Formal Option(s):*	*N/A*
Specialty Field w/in Formal Option:	N/A	*Proposed Specialty Field w/in Formal Options:*	*N/A*

Date of Contact with Associate Provost for Academic Administration[1]:	09/01/15				
Bulletin (yr & pgs):	2015-2016, pp. 246-247	CIP Code[1]:	11.0101	Today's Date:	09/23/2015
Accrediting Agency (if applicable):	ABET				
Requested Effective Date:	☒ Semester following approval.	OR	☐ Specific Date[2]:		
Dept. Contact Person:	Jerzy W. Jaromczyk	Phone:	257-1186	Email:	jurek@cs.uky.edu

2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

Please list the courses/credit hours currently used to fulfill the University Studies/General Education curriculum:
Intellectual Inquiry in Arts and Creativity: Choose one course from the approved list (3)
Intellectual Inquiry in the Humanities: Choose one course from the approved list (3)
Intellectual Inquiry in the Social Sciences: Choose one course from the approved list (3)
Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences: PHY 231 (4) and PHY 241 (1)
Composition and Communication I: CIS/WRD 110 (3)
Composition and Communication II: CIS/WRD 111 (3)
Quantitative Foundations: MA 113 Calculus I (4)
Statistical Inferental Reasoning: Choose one course from the approved list (3)
Community, Culture and Citizenship: Choose one course from approved list (3)
Global Dynamics: Choose one course from approved list (3)

Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.

	General Education Area		Course	Credit Hrs
I. Intellectual Inquiry (one course in each area)				
	Arts and Creativity		*Choose from list*	*3*
	Humanities		*Choose from list*	*3*

[1] Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the (APAA) can provide you with that during the contact.

[2] Program changes are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

	Social Sciences		*Choose from list*	*3*
	Natural/Physical/Mathematical		*PHY 231 & 241*	*5*
II. Composition and Communication				
	Composition and Communication I		CIS or WRD 110	3
	Composition and Communication II		CIS or WRD 111	3
III. Quantitative Reasoning (one course in each area)				
	Quantitative Foundations[3]		*MA 113*	*4*
	Statistical Inferential Reasoning		*STA 381*	*3*
IV. Citizenship (one course in each area)				
	Community, Culture and Citizenship in the USA		*Choose from list*	*3*
	Global Dynamics		*Choose from list*	*3*
			Total General Education Hours	*33*

3. Explain whether the proposed changes to the program (as described in sections 4 to 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).

The proposed curricular change includes the addition of EGR 101, 102 and 103 as a part of the Common Year, the replacement of STA 281 with STA 381, the addition of MA 322 as an option to CS/MA 321, and the elimination of CS 115, PHY 232/242 and CS/EE 380 from the list of current requirements as a result of adding new courses.

4. Explain how satisfaction of the University Graduation Writing Requirement will be changed.

Current		*Proposed*	
☐ Standard University course offering. List: _____		☐ *Standard University course offering. List: _____*	
☒ Specific course – list:	CS 499 Senior Design	☒ *Specific course) – list:*	*CS 499 Senior Design*

5. List any changes to college-level requirements that must be satisfied.

Current		*Proposed*	
☐ Standard college requirement. List: _____		☐ *Standard college requirement. List: _____*	
☐ Specific required course – list:	_____	☐ *Specific course – list:*	_____

6. List pre-major or pre-professional course requirements that will change, including credit hours.

Current	*Proposed*
CS 100 (1)	*CIS/WRD 110 (3)*
CS 115 (3)	*CIS/WRD111 (3)*
CS 215 (4)	*CHE 105 (4)*
CS 216 (3)	*MA 113 (4)*
CS 275 (4)	*MA 114 (4)*
CIS/WRD 110 (3)	*PHY 231 (4)*

[3] Note that MA 109 is NOT approved as a Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

MA 113 (4) MA 114 (4) PHY 231 (4) PHY 241 (1) Subtotal: Premajor hours 31	*PHY 241 (1)* *EGR 101 (1)* *EGR 102 (2)* *EGR 103 (2)* *CS 215 (4)* *CS 216 (3)* *CS 275 (4)* *UK Core (3)* *MA 213 (4)* *EE 280 (3)* *Subtotal: Premajor hours..... 39*

7. List the major's course requirements that will change, including credit hours.

Current	*Proposed*
PHY 232 (4) PHY 242 (1) Additional Science Electives (6) MA 213 (4) EE 280 (3) STA 281 (3) CS 315 (3) CS/MA 321 (3) CS 375 (3) CS/EE 380 (3) CS 470G (3) CS 499 (3) Subtotal: Major hours ..... (39) Computer Science Electives (9)) Choose three from the following list: CS 335 (3) CS 405G (3) CS 441G (3) CS 450G (3) CS 463G (3) Any other CS class at the 300-level or above (3) Subtotal: CS Electives (9) Technical Electives Choose 12 credit hours of the following: MA 214 Calculus IV or any 300-level or higher classes selected from computer science, electrical engineering, mathematics, or the College or Business and Economics Subtotal: Technical Electives (12) Electives (Non-Technical and Free Electives) Two courses must be in areas other than computer science, science, engineering, or mathematics. Any remaining electives should be selected to meet the minimum total of 128 hours required for graduation Subtotal: Electives (minimum of 6) TOTAL HOURS 128	*CS 270 (3)* *STA 381 (3)* *Additional Science Electives (6)* *CS 315 (3)* *CS/MA 321 (3);* *or MA 322 (3)* *CS 371 (3)* *CS 375 (3)* *CS 498G (3)* *CS 499 (3)* *Subtotal: Major hours ..... (30)* *Computer Science Electives (15)* *Choose five CS classes at the 300-level or above with at least three from the following list:* *CS 335 (3)* *CS 378 (3)* *CS 405G (3)* *CS 441G (3)* *CS 450G (3)* *CS 460G (3)* *CS 463G (3)* *Subtotal: CS Electives (15)* *Technical Electives* *Choose 12 credit hours of the following:* *MA 214 Calculus IV or any 300-level or higher classes selected from computer science, electrical engineering, mathematics, the College or Business and Economics, or by advisor's approval* *Subtotal: Technical Electives (12)* *Electives (Non-Technical and Free Electives)* *At least one course must be in areas other than computer science, science, engineering, or mathematics. Any remaining electives should be selected to meet the minimum total of 128 hours required for graduation* *Subtotal: Electives (minimum of 10)* *TOTAL HOURS 128*

CHANGE UNDERGRADUATE PROGRAM FORM

8. Does the pgm require a minor AND does the proposed change affect the required minor? ☐ N/A ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*
____	____

9. Does the proposed change affect any option(s)? ☐ N/A ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below, including credit hours, and also specialties and subspecialties, if any.

Current	*Proposed*
____	____

10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
____	

11. Does the change affect pgm requirements for technical or professional support electives? ☒ Yes ☐ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
CS Electives (9), Technical Electives (12)	*CS Electives (15), Technical Electives (12)*

12. Does the change affect a minimum number of free credit hours or support electives? ☒ Yes ☐ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*
Electives (Non-Technical and Free Electives) (6)	*Electives (Non-Technical and Free Electives) (10)*

13. Summary of changes in required credit hours:

		Current	*Proposed*
a. Credit Hours of Premajor or Preprofessional Courses:		31	*39*
b. Credit Hours of Major's Requirements:		39	*30*
c. Credit Hours for Required Minor:		N/A	*N/A*
d. Credit Hours Needed for a Specific Option:		N/A	*N/A*
e. Credit Hours Outside of Major Subject in Related Field:		N/A	*N/A*
f. Credit Hours in Technical or Professional Support Electives:		21	*27*
g. Minimum Credit Hours of Free/Supportive Electives:		6	*10*
h. Total Credit Hours Required by Level:	100:	21	*23*
	200:	24	*26*
	300:	12	*12+electives*
	400-500:	6	*6+electives*
i. Total Credit Hours Required for Graduation:		128	*128 (including*

		Electives, and UK Core)

14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to that.

The Department of Computer Science is revising its undergraduate program to incorporate the college's new first-year student common experience. The proposed curricular changes include the addition of EGR 101, 102 and 103, change from STA 281 to STA 381, the addition of MA 322 as an option to CS/MA 321, and the elimination of PHY 232/242 and CS/EE 380. The curriculum is restructured to include new Computer Science courses that reflect new trends and needs of CS graduates. In particular, the number of Computer Science Electives is increased from 9 to 15 credit hours to accomodate the growing breadth and depth in CS areas. The total number of credit hours will remain the same as with the current program. The new courses CS 270, CS 371, CS 498 have been already approved by the Undergraduate Council.

15. List below the typical semester by semester program for the major. If multiple options are available, attach a separate sheet for each option.

YEAR 1 – FALL: **(e.g. "BIO 103; 3 credits")**	CIS/WRD 110 (3) EGR 101 (1) EGR 102 (2) MA 113 (4) CHE 105 (4)	**YEAR 1 – SPRING:**	*CIS/WRD 111 (3)* *EGR 103 (2)* *PHY 231 (4)* *PHY 241 (1)* *CS 215 (4)* *MA 114 (4)*
YEAR 2 - FALL :	CS 216 (3) CS 275 (4) EE 280 (3) MA 213 (4) UK Core (3)	**YEAR 2 – SPRING:**	*CS 270 (3)* *CS 315 (3)* *Technical Elective (3)* *UK Core (3)* *Science Elective (3)*
YEAR 3 - FALL:	CS/MA 321 or MA 322 (3) CS 371 (3) CS Elective (3) CS Elective (3) STA 381 (3)	**YEAR 3 - SPRING:**	*CS 375 (3)* *CS Elective (3)* *CS Elective (3)* *Technical Elective (3)* *UK Core (3)* *Natural Science Elective (3)*
YEAR 4 - FALL:	CS 498G (3) CS Elective (3) Technical Elective (3) UK Core (3) Free Elective (4)	**YEAR 4 - SPRING:**	*CS 499 (3)* *CS Elective (3)* *Non-Technical Elective (3)* *Technical Elective (3)* *Free Elective (3)*

CHANGE UNDERGRADUATE PROGRAM FORM

Signature Routing Log

General Information:

Current Degree Title and Major Name: Bachelor of Science in Computer Science

Proposal Contact Person Name: Jerzy W. Jaromczyk Phone: 257-1186 Email: jurek@cs.uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
CS Faculty	30 Sept 2015	W. Brent Seales / 7-3063 / seales@uky.edu	
COE Faculty	10-22-15	Kimberly Anderson / 78604 / Kimberly.anderson@uky.edu	
		/ /	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[4]
Undergraduate Council	12/15/15	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[4] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

Computer Science
Engineering Standing

Current Requirements:

Completion of the following courses with a grade-point average of at least 2.50: CS 100, CS 115, CS 215, CS 275, CIS/WRD 110, MA 113, MA 114, PHY 231, PHY 241.

Proposed Requirements:

Completion of the following courses with a grade-point average of at least 2.50: EGR 102, CS 215, CS 275, CIS/WRD 110, MA 113, MA 114, PHY 231, PHY 241.

Brandenburg, Barbara J

From:	Meier, Mark
Sent:	Friday, September 25, 2015 2:36 PM
To:	Lumpp, Janet K
Cc:	Meier, Mark; Selegue, J P; Brandenburg, Barbara J; Hedge, Jesse
Subject:	Re: Enrollment changes due College of Engineering Curriculum Changes

Dr. Lumpp. Thank you for your message. I am now aware of the proposed change to require CHE 105 for students in the Computer Science degree program.

Mark S. Meier
Chair, Department of Chemistry
meier@uky.edu
859 257-7082

On Sep 24, 2015, at 3:14 PM, Lumpp, Janet K <jklumpp@uky.edu> wrote:

Dr. Meier,

The degree programs in the College of Engineering are all proposing undergraduate Curriculum Changes as a result of new common First-Year Engineering courses and other departmental initiatives. I am writing to make you aware of the changes that will affect CHE 105 no earlier than the Fall 2016 semester. As part of the proposal package, we need to include a reply from you acknowledging that you are aware of the changes that will impact enrollment in this course.

CHE 105 will be required for BS degrees in Computer Science

With the addition of Computer Science, all nine degree programs now require CHE 105 and are recommending the course for first semester students enrolling in the College of Engineering. No other changes are proposed for the laboratories or additional chemistry lecture courses.

Please reply all at your earliest convenience.
Thanks,
Janet

--
Dr. Janet K. Lumpp - University of Kentucky

Director, First-Year Engineering Program
Professor, Electrical & Computer Engineering
email: jklumpp@uky.edu
phone: 859-257-4985

Brandenburg, Barbara J

From: Sumit Das <chair@pa.uky.edu>
Sent: Monday, September 28, 2015 11:29 AM
To: Lumpp, Janet K; DAS, SUMIT R
Cc: Anderson, Kimberly; Brandenburg, Barbara J
Subject: Re: Enrollment changes due College of Engineering Curriculum Changes

Dear Dr. Lumpp

Thank you for letting me know about the proposal. This is to let you know that I am aware of the changes in PHY 232, 241 and 242 requirements for engineering students. This will impact the enrollment in these courses significantly.

Best

Sumit Das

On 9/24/2015 3:18 PM, Janet K. Lumpp wrote:
> Dr. Das,
>
> The degree programs in the College of Engineering are all proposing
> undergraduate Curriculum Changes as a result of new common First-Year
> Engineering courses and other departmental initiatives. I am writing
> to make you aware of the changes that will affect several Physics
> courses no earlier than the Fall 2016 semester. As part of the
> proposal package, we need to include a reply from you acknowledging
> that you are aware of the changes that will impact enrollment in these
> courses.
>
> PHY 232 will no longer be required for BS degrees in Computer Science
> PHY 241 will no longer be required for the BS degree in Chemical
> Engineering PHY 242 will no longer be required for BS degrees in
> Computer Science
>
> Please reply all at your earliest convenience.
> Thanks,
> Janet
>

--
Sumit R. Das
Professor and Chair
Department of Physics and Astronomy
University of Kentucky
Lexington, KY 40506
Phone : 859-257-1328

Brandenburg, Barbara J

From:	Brown, Russell
Sent:	Thursday, September 24, 2015 9:57 PM
To:	Lumpp, Janet K
Cc:	Anderson, Kimberly; Brandenburg, Barbara J
Subject:	Re: Enrollment changes due College of Engineering Curriculum Changes

Thanks for your message. By this email, I acknowledge that the Department of Mathematics is aware of these changes in requirements in the College of Engineering and will do our best to adjust our course offerings to accommodate Engineering students.

I would appreciate a notification when the changes are approved so that we will know what to expect during registration.

Sincerely,
Russell Brown
Chair of Math

2015-09-24 15:27 GMT-04:00 Janet K. Lumpp <jklumpp@uky.edu>:
Dr. Brown,

The degree programs in the College of Engineering are all proposing undergraduate Curriculum Changes as a result of new common First-Year Engineering courses and other departmental initiatives. I am writing to make you aware of the changes that will affect several Mathematics courses no earlier than the Fall 2016 semester. As part of the proposal package, we need to include a reply from you acknowledging that you are aware of the changes that will impact enrollment in these courses.

MA 320 will be an optional course (with STA 381) for the BS degree in Electrical Engineering
MA 322 will be an optional course (with CS 321) for the BS degree in Computer Science

Please reply all at your earliest convenience.
Thanks,
Janet

--
Dr. Janet K. Lumpp - University of Kentucky

Director, First-Year Engineering Program
Professor, Electrical & Computer Engineering
email: jklumpp@uky.edu
phone: 859-257-4985

--

Brandenburg, Barbara J

From:	Holloway, Lawrence E
Sent:	Tuesday, September 29, 2015 9:20 PM
To:	Lumpp, Janet K
Cc:	Anderson, Kimberly; Brandenburg, Barbara J; Smith, William T; Lumpp, James E; 'Hank Dietz'; danielle green-hinkle
Subject:	RE: Enrollment changes due College of Engineering Curriculum Changes

Janet,

I am replying acknowledging your notification that EE/CS380 will no longer be required by BS-CS. The department will plan future course scheduling offerings accordingly.

I am copying Hank Dietz, the instructor, so that he is aware of this. I am also copying Bill Smith as he is responsible for the class scheduling in our department.

-Larry Holloway

---------- Larry Holloway Chair, Department of Electrical and Computer Engineering Director, Power and Energy Institute of Kentucky TVA Professor of Electrical and Computer Engineering
University of Kentucky, Lexington, KY 40506. USA
phone: 859-323-8523
ECE main phone: 859-257-8042
email: holloway@uky.edu

-----Original Message-----
From: Lumpp, Janet K
Sent: Tuesday, September 29, 2015 2:38 PM
To: Holloway, Lawrence E <larry.holloway@uky.edu>
Cc: Lumpp, Janet K <jklumpp@uky.edu>; Anderson, Kimberly <kimberly.anderson@uky.edu>; Brandenburg, Barbara J <barbara.brandenburg@uky.edu>
Subject: Enrollment changes due College of Engineering Curriculum Changes

Dr. Holloway,

As you know, the degree programs in the College of Engineering are all proposing undergraduate Curriculum Changes as a result of new common First-Year Engineering courses and other departmental initiatives. I am writing to make you aware of the changes that will affect EE380 no earlier than the Fall 2016 semester. As part of the proposal package, we need to include a reply from you acknowledging that you are aware of the changes that will impact enrollment in this course.

EE/CS380 will no longer be required for the BS degree in Computer Science

Please reply all at your earliest convenience.
Thanks,
Janet

--
Dr. Janet K. Lumpp - University of Kentucky

Subject: RE: Changes to Statistic UK Core Requirement - Please respond to this one.
Date: Thursday, February 11, 2016 at 2:57:26 PM Eastern Standard Time
From: Stromberg, Arnold
To: Anderson, Kimberly, Rayens, William S
CC: Lumpp, Janet K

We approve of these changes.

Arnold J. Stromberg
Professor and Chair
Department of Statistics
University of Kentucky
313 Multidisciplinary Science Building
725 Rose Street
Lexington, KY 40536-0082
Phone: 859-257-6115
Fax: 859-323-1973

From: Anderson, Kimberly
Sent: Thursday, February 11, 2016 2:41 PM
To: Rayens, William S; Stromberg, Arnold
Cc: Lumpp, Janet K; Anderson, Kimberly
Subject: Changes to Statistic UK Core Requirement - Please respond to this one.

Hi Arny and Bill

Back in October, Janet Lumpp sent you an email regarding our changes to the Engineering curricula and I see where Arny responded saying that you are aware of the changes and will plan accordingly. We are now being told by the Senate Council that we need a more specific memo from you. As part of our curricular changes, we have 4 programs; Chemical Engineering, Materials Engineering, Electrical Engineering, and Computer Science who have made a change in their curricula that indicates that students are now REQUIRED to take STA 381 for the UK Core Statical Inferential Reasoning. Specifically, the changes are as follow;

Chemical Engineering: Changing UK Core Statical Inferential Reasoning from STAT 210 to STA 381
Materials Engineering: Changing UK Core Statical Inferential Reasoning from STAT 210 to STA 381

Electrical Engineering: Changing UK Core Statical Inferential Reasoning from "Choose one course from approved list" to STA 381
Computer Science: Changing UK Core Statical Inferential Reasoning from "Choose one course from approved list" to STA 381

If you are ok with these changes, please respond back and say you approve.

Thank you!
Kim

****

Dr. Kimberly Anderson, Associate Dean for Administration and Academic Affairs
Professor, Chemical Engineering
College of Engineering
University of Kentucky
371 Ralph G Anderson Building | Lexington, KY 40506-0030 | office 859.257.1864 | fax 859.257.5727
email kimberly.anderson@uky.edu | web http://www.engr.uky.edu

Brandenburg, Barbara J

From: Lumpp, Janet K
Sent: Thursday, October 01, 2015 4:43 PM
To: Brandenburg, Barbara J
Cc: Lumpp, Janet K
Subject: Fwd: Re: Enrollment changes due College of Engineering Curriculum Changes

-------- Forwarded Message --------
Subject: Re: Enrollment changes due College of Engineering Curriculum Changes
Date: Thu, 1 Oct 2015 16:33:25 -0400
From: Meier, Mark <mark.meier@uky.edu>
To: Lumpp, Janet K <jklumpp@uky.edu>
CC: Selegue, J P <selegue@uky.edu>, French, April N <april.french@uky.edu>

Hi Janet. I acknowledge that we have been informed of the proposed change that would remove the CHE 107 requirement for the BS in Mining Engineering and make CHE 111 optional.

Mark S. Meier
Chair, Department of Chemistry
meier@uky.edu
859 257-7082

On Oct 1, 2015, at 4:18 PM, Lumpp, Janet K <jklumpp@uky.edu> wrote:

I missed another change from Mining Engineering. Please acknowledge again.

CHE 107 will no longer be required for the BS in Mining Engineering
CHE 111 will be optional for the BS in Mining Engineering, it was not previously required.

Thanks,
Janet

On 9/25/2015 2:36 PM, Meier, Mark wrote:

Dr. Lumpp. Thank you for your message. I am now aware of the proposed change to require CHE 105 for students in the Computer Science degree program.

Mark S. Meier
Chair, Department of Chemistry
meier@uky.edu
859 257-7082

On Sep 24, 2015, at 3:14 PM, Lumpp, Janet K <jklumpp@uky.edu> wrote:

Dr. Meier,

The degree programs in the College of Engineering are all proposing undergraduate Curriculum Changes as a result of new common First-Year Engineering courses and other departmental initiatives. I am writing to make you aware of the changes that will affect CHE 105 no earlier than the Fall 2016 semester. As part of the proposal package, we need to include a reply from you acknowledging that you are aware of the changes that will impact enrollment in this course.

CHE 105 will be required for BS degrees in Computer Science

With the addition of Computer Science, all nine degree programs now require CHE 105 and are recommending the course for first semester students enrolling in the College of Engineering. No other changes are proposed for the laboratories or additional chemistry lecture courses.

Please reply all at your earliest convenience.
Thanks,
Janet

--
Dr. Janet K. Lumpp - University of Kentucky

Director, First-Year Engineering Program
Professor, Electrical & Computer Engineering
email: jklumpp@uky.edu
phone: 859-257-4985

--
Dr. Janet K. Lumpp - University of Kentucky

Director, First-Year Engineering Program
Professor, Electrical & Computer Engineering
email: jklumpp@uky.edu
phone: 859-257-4985

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CHANGE UNDERGRADUATE PROGRAM FORM

1. General Information

College:	Engineering	Department:	Electrical and Computer Engineering
Current Major Name:	Electrical Engineering	*Proposed Major Name:*	*Electrical Engineering*
Current Degree Title:	BSEE	*Proposed Degree Title:*	*BSEE*
Formal Option(s):	____	*Proposed Formal Option(s):*	____
Specialty Field w/in Formal Option:	____	*Proposed Specialty Field w/in Formal Options:*	____
Date of Contact with Associate Provost for Academic Administration[1]:	9/1/15		
Bulletin (yr & pgs):	2015-16, pg 248-50	CIP Code[1]:	14.1001
Today's Date:	09/21/2015		
Accrediting Agency (if applicable):	ABET		
Requested Effective Date:	☒ Semester following approval.	OR	☐ Specific Date[2]: ____
Dept. Contact Person:	William T. Smith	Phone:	257-1009
Email:	william.smith@uky.edu		

2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

Please list the courses/credit hours currently used to fulfill the University Studies/General Education curriculum:
Intellectual Inquiry in Arts and Creativity: EE 101 (3)
Intellectual Inquiry in the Humanities: Choose one course from approved list (3)
Intellectual Inquiry in the Social Sciences: Choose one course from approved list (3)
Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences: PHY 231 (4) and PHY 241 (1)
Composition and Communication I: CIS/WRD 110 (3)
Composition and Communication II: CIS/WRD 111 (3)
Quantitative Foundations: MA 113 (4)
Statistical Inferential Reasoning: Choose one course from approved list (3)
Community, Culture and Citizenship: Choose one course from approved list (3)
Global Dynamics: Choose one course from approved list (3)

Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.

General Education Area		Course	Credit Hrs
I. Intellectual Inquiry (one course in each area)			
Arts and Creativity		*EGR 101, EGR 103*	*3*
Humanities		*Choose from approved list*	*3*

[1] Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the (APAA) can provide you with that during the contact.

[2] Program changes are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

	Social Sciences		*Choose from approved list*	*3*
	Natural/Physical/Mathematical		*PHY 231, PHY 241*	*5*
II. Composition and Communication				
	Composition and Communication I		CIS or WRD 110	3
	Composition and Communication II		CIS or WRD 111	3
III. Quantitative Reasoning (one course in each area)				
	Quantitative Foundations[3]		*MA 113*	*4*
	Statistical Inferential Reasoning		*STA 210 or STA 381*	*3*
IV. Citizenship (one course in each area)				
	Community, Culture and Citizenship in the USA		*Choose from approved list*	*3*
	Global Dynamics		*Choose from approved list*	*3*
			Total General Education Hours	*33*

3. Explain whether the proposed changes to the program (as described in sections 4 to 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).

The proposed curriculum change includes the addition of EGR 101, 102 and 103, and the elimination of CS 115.

4. Explain how satisfaction of the University Graduation Writing Requirement will be changed.

Current		*Proposed*	
☐ Standard University course offering. List: _____		☐ *Standard University course offering. List: _____*	
☒ Specific course – list:	EE 490	☒ *Specific course) – list:*	*EE 490*

5. List any changes to college-level requirements that must be satisfied.

Current		*Proposed*	
☐ Standard college requirement. List: _____		☐ *Standard college requirement. List: _____*	
☐ Specific required course – list:	_____	☐ *Specific course – list:*	_____

6. List pre-major or pre-professional course requirements that will change, including credit hours.

Current	*Proposed*
CIS/WRD 110; 3 credits	*CIS/WRD 110; 3 credits*
CIS/WRD 111; 3 credits	*CIS/WRRD 111; 3 credits*
CHE 105; 4 credits	*CHE 105; 4 credits*
MA 113; 4 credits	*MA 113; 4 credits*
MA 114; 4 credits	*MA 114; 4 credits*
MA 213; 4 credits	*MA 213; 4 credits*

[3] Note that MA 109 is NOT approved as a Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

PHY 231; 4 credits	*PHY 231; 4 credits*
PHY 241; 1 credit	*PHY 241; 1 credit*
PHY 232; 4 credits	*PHY 232; 4 credits*
PHY 242; 1 credit	*PHY 242; 1 credit*
EE 211; 4 credits	*EE 211; 4 credits*
EE 280; 3 credits	
	EE 282; 4 credits
EE 101; 3 credits	
	EGR 101; 1 credit
	EGR 102; 2 credits
	EGR 103; 3 credits
CS 115; 3 credits	

7. List the major's course requirements that will change, including credit hours.

Current	*Proposed*
CS 215; 4 credits	*CS 215; 4 credits*
EE 221; 3 credits	
EE 222; 2 credits	
	EE 223; 4 credits
EE 360; 3 credits	
EE 380; 3 credits	
	EE 287; 4 credits
EE 415G; 3 credits	*EE 415G; 3 credits*
EE 421G; 3 credits	*EE 421G; 3 credits*
EE 461G; 3 credits	*EE 461G; 3 credits*
EE 468G; 4 credits	*EE 468G; 4 credits*
EE 490; 3 credits	*EE 490; 3 credits*
EE 491; 3 credits	*EE 491; 3 credits*
MA 214; 3 credits	*MA 214; 3 credits*
MA 320; 3 credits	*MA 320 or STA 381; 3 credits*
Choose three of the following lab courses:	*Choose two of the following lab courses:*
EE 281; 2 credits	
EE 416G; 2 credits	*EE 416G; 2 credits*
EE 462G; 2 credits	*EE 462G; 2 credits*
EE 422G; 2 credits	*EE 422G; 2 credits*

8. Does the pgm require a minor AND does the proposed change affect the required minor? ☐ N/A ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*

9. Does the proposed change affect any option(s)? ☐ N/A ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below, including credit hours, and also specialties and subspecialties, if any.

Current	*Proposed*

10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

CHANGE UNDERGRADUATE PROGRAM FORM

Current	*Proposed*

11. Does the change affect pgm requirements for technical or professional support electives? ☒ Yes ☐ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
Engineering Science Elective; 6 credits	*Engineering Science Elective; 6 credits*
Math/Statistics Elective; 3 credits	*Math/Statistics Elective; 3 credits*
Technical Elective; 3 credits	*Technical Elective; 6 credits*
EE Technical Elective; 12 credits	*EE Technical Elective; 12 credits*

12. Does the change affect a minimum number of free credit hours or support electives? ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*

13. Summary of changes in required credit hours:

		Current	*Proposed*
a. Credit Hours of Premajor or Preprofessional Courses:		45	*46*
b. Credit Hours of Major's Requirements:		46	*41*
c. Credit Hours for Required Minor:			
d. Credit Hours Needed for a Specific Option:			
e. Credit Hours Outside of Major Subject in Related Field:			
f. Credit Hours in Technical or Professional Support Electives:		24	*27*
g. Minimum Credit Hours of Free/Supportive Electives:		3	*3*
h. Total Credit Hours Required by Level:	100:	24	*24*
	200:	30-32	*34*
	300:	9	*3*
	400-500:	23-25	*23*
i. Total Credit Hours Required for Graduation:		134	*131*

14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to that.

See the attached cover memo for a detailed description. Incorporation of new First Year Engineering Program course sequence. Combining lecture and associated laboratory courses into one course number. Slight increase in elective courses.

15. List below the typical semester by semester program for the major. If multiple options are available, attach a separate sheet for each option.

YEAR 1 – FALL: **(e.g. "BIO 103; 3 credits")**	EGR 101; 1 credit EGR 102; 2 credits MA 113; 4 credits	**YEAR 1 – SPRING:**	*EGR 103; 2 credits* *MA 114; 4 credits* *PHY 231; 4 credits*

	CHE 105; 4 credits CIS/WRD 110; 3 credits		*PHY 241; 1 credit* *CIS/WRD 111; 3 credits* *UK Core; 3 credits*
YEAR 2 - FALL :	MA 213; 4 credits PHY 232; 4 credits PHY 242; 1 credit EE 211; 4 credits EE 282; 4 credits	**YEAR 2 – SPRING:**	*MA 214; 3 credits* *EE 223; 4 credits* *EE287; 4 credits* *CS 215; 4 credits* *UK Core: 3 credits*
YEAR 3 - FALL:	EE 415G; 3 credits EE 421G; 3 credits Elective EE Labatory; 2 credits EE 461G; 3 credits MA 320/STA 381; 3 credits Technical Elective; 3 credits	**YEAR 3 - SPRING:**	*EE 468G; 4 credits* *Elective EE Lab; 2 credits* *Technical Elective; 3 credits* *Eng/Sci Elective; 3 cred* *UK Core; 3 credits*
YEAR 4 - FALL:	EE 490; 3 credits EE Technical Elective; 3 credits EE Technical Elective; 3 credits Math Elective; 3 credits UK Core; 3 credits	**YEAR 4 - SPRING:**	*EE 491; 3 credits* *EE Technical Elective; 3 credit* *EE Technical Elective; 3 credit* *Eng/Sci Elective; 3 credits* *Supportive Elective; 3 credits* *UK Core; 3 credits*

CHANGE UNDERGRADUATE PROGRAM FORM

Signature Routing Log

General Information:

Current Degree Title and Major Name: Bachelor of Science in Electrical Engineering, Electrical Engineering

Proposal Contact Person Name: William T. Smith Phone: 257-1009 Email: william.smith@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
ECE Faculty	9/29/15	Lawrence Holloway / 3-8523 / larry.holloway@uky.edu	
COE Faculty	10/22/15	Kimberly Anderson / 7-1804 / kimberly.anderson@uky.edu	
		/ /	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[4]
Undergraduate Council	12/15/15	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[4] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

SUMMARY OF CHANGES IN THE ELECTRICAL ENGINEERING CURRICULUM

1. Incorporation of the First Year Experience into the EE curriculum

2. Linking of lecture/lab material at the sophomore level to emphasize hands-on. Those changes are: EE 221 (3 hours) + EE 222 (2 hours) = EE 223 (4 hours); EE 280 (3 hours) + EE 281 (2 hours, formerly optional) = EE 282 (4 hours). There is an additional change in a required computer course. EE 380 (3 hours, now optional) is replaced with EE 287 (4 hours, including a lab component in sophomore year). NOTE: EE is adding lab components to lectures (in EE 223, EE 383, and EE 287) but the overall number of labs/lecture will be reduced to follow the net reduction in credit hours and to avoid overloading the students with labs in the sophomore year. Effectively, there will be a slight overall reduction in the number of required EE lab contact hours in the total curriculum.

3. EE 360 is no longer required for EE students. The material can be taken via the technical elective or an upper level EE technical elective. Note that there is an extra technical elective in the junior year to allow for that option.

4. Adding STA 381 as an option to MA 320 for the EE "probability" requirement.

5. In the Bulletin, the admission to the EE major, Engineering Standing, will be slightly modified. Attached is the updated wording:

Completion of a minimum of 35 semester hours acceptable towards the degree in engineering with a minimum cumulative grade-point average of 2.50. Completion of MA 113, MA 114, MA 213, PHY 231, CHE 105, and CIS/WRD 110 with a minimum cumulative GPA of 2.50 in these courses. Completion of EE 211 and EE 282 with passing grades. University repeat options may be utilized as appropriate. Students who do not meet these GPA requirements may request consideration based upon departmental review if the first two GPAs are 2.25 or greater and they receive a C or better in both EE 211 and EE 282.

NAME: last first middle **DRAFT** **SI#** Program: Electrcial Engineering 2016-2017 Bulletin

Course	credit	sem/y	grade
UK Core-General Education			
Foreign Language (two sem or H.S.)			
*Intellectual Inquiry-Creativity & the Arts (one)			
Assuming EGR101,102,103 fulfills this req.			
Intellectual Inquiry-Humanities (one course)			
Intellectual Inquiry-Social Sciences (one course)			
**Quantitative Reasoning-Statistical Inferential			
STA 210 will fulfill this and E/S elective or STA 381			
Citizenship-USA			
Citizenship-Global Dynamics			
(EGR 199) EGR 240 Fulfills this requirement			
Graduation Writing Requirement			
EE 490 will fulfill this requirement			
Graduation Plan Date:			
Date:			
Engineering Standing:			
Planned Courses:			

Course	credit	sem/y	grade
FRESHMAN YEAR			
First Semester			
EGR 101 Engineering Exploration I	1		
MA 113 Calculus I	4		
EGR 102 Fund. of Eng. Computing	2		
CIS/WRD 110	3		
CHE 105 General College Chemisty	4		
	14		
Second Semester			
MA 114 Calculus II	4		
PHY 231 Gen Univ Physics	4		
PHY 241 Gen Univ Physics Lab I	1		
UK Core-Plug in from left	3		
CIS/WRD 111	3		
EGR 103 Engineering Exploration II	2		
	17		
SOPHOMORE YEAR			
First Semester			
MA 213 Calculus III	4		
PHY 232 Gen Univ Physics II	4		
PHY 242 Gen Univ Physics Lab II	1		
EE 211 Circuits I	4		
EE 282 Design of Logic Circuits	4		
	17		
Second Semester			
MA 214 Calculus IV	3		
EE 223 Circuits II	4		
EE 287 Embedded Systems	4		
CS 215 Intro. To Program Design	4		
UK Core-Plug in from left	3		
	18		

Course	credit	sem/y	grade
JUNIOR YEAR			
First Semester			
EE 415G Electromechanics	3		
EE 421G Signals & Systems	3		
Elective EE Laboratory	2		
EE 461G Intro. To Electronics	3		
MA 320/STA 381	3		
Technical Elective	3		
	17		
Second Semester			
EE 468G Fields & Waves	4		
Elective EE Laboratory	2		
Technical Elective	3		
E/S Elective**	3		
UK Core-Plug in from left	3		
	15		
SENIOR YEAR			
First Semester			
EE 490 EE Capstone Design I	3		
EE Technical Elective	3		
EE Technical Elective	3		
Math/Statistics Elective	3		
UK Core-Plug in from left	3		
	15		
Second Semester			
EE 491 EE Capstone Design II	3		
EE Technical Elective	3		
EE Technical Elective	3		
Supportive Elective	3		
E/S Elective	3		
UK Core-Plug in from left	3		
	18		

TOTAL 131

Course	credit	sem/y	grade	Course	credit	sem/y	grade	
FRESHMAN YEAR				JUNIOR YEAR				
First Semester				**First Semester**				
*EE 101 Professions Seminar	3			EE 415G Electromechanics	3			
MA 113 Calculus I	4			EE 421G Signals & Systems	3			
CS 115 Intro to Computer Prog.	3			Elective EE Laboratory	2			
CIS/WRD 110	3			EE 380 Computer Organization	3			
UK Core-Plug in from left	3			EE 461G Intro. To Electronics	3			
				MA 320 Introductory Probab.	3			
	16				17			
Second Semester				**Second Semester**				
MA 114 Calculus II	4			EE 468G Fields & Waves	4			
PHY 231 Gen Univ Physics	4			Elective EE Laboratory	2			
PHY 241 Gen Univ Physics Lab I	1			Technical Elective	3			
CHE 105 General College Chemisty I	4			E/S Elective**	3			
EE 280 Design of Logic Circuits	3			UK Core-Plug in from left	3			ORIGINAL
UK Core-Plug in from left	3							TOTAL
	19				15			133
SOPHOMORE YEAR				SENIOR YEAR				
First Semester				**First Semester**				
MA 213 Calculus III	4			EE 490 EE Capstone Design I	3			
PHY 232 Gen Univ Physics II	4			EE Technical Elective	3			
PHY 242 Gen Univ Physics Lab II	1			EE Technical Elective	3			
EE 211 Circuits I	4			Elective EE Laboratory	2			
CIS/WRD 111	3			Math/Statistics Elective	3			
				UK Core-Plug in from left	3			
	16				17			
Second Semester				**Second Semester**				
MA 214 Calculus IV	3			EE 491 EE Capstone Design II	3			
EE 221 Circuits II	3			EE Technical Elective	3			
EE 222 EE Laboratory I	2			EE Technical Elective	3			
EE 360 IntroSemiconductor Devices	3			Supportive Elective	3			
CS 215 Intro. To Program Design	4			E/S Elective	3			
UK Core-Plug in from left	3							
	18				15			

Brandenburg, Barbara J

Subject: FW: Re: Enrollment changes due College of Engineering Curriculum Changes

Janet,
Thank you for making me aware of the impact of these changes.
I have discussed this with my Director of Undergraduate students Jurek Jaromczyk and with my faculty and we understand that these changes will have impact on the enrollment in our courses.
Best,
Brent

On Thu, Sep 24, 2015 at 12:06 PM, Janet K. Lumpp <jklumpp@uky.edu> wrote:

> Dr. Seales,
>
> As you know, the degree programs in the College of Engineering are all proposing undergraduate Curriculum Changes as a result of the First-Year Engineering courses and other departmental initiatives. I am writing to make you aware of the changes that will affect several Computer Science courses no earlier than the Fall 2016 semester. As part of the proposal package, we need to include a reply from you acknowledging that you are aware of the changes that will impact enrollment in these courses.
>
> CS 270 will be required for BS degrees in Computer Engineering
>
> CS 115 will no longer be required for BS degrees in Computer Engineering and Electrical Engineering
> CS 221 will no longer be required for BS degrees in Biosystems Engineering, Civil Engineering, Materials Engineering, Mechanical Engineering and Mining Engineering
> CS 441 will no longer be required for BS degrees in Computer Engineering
> CS 470 will no longer be required for BS degrees in Computer Engineering
>
> Please reply all at your earliest convenience.
> Thanks,
> Janet
>
> --
> Dr. Janet K. Lumpp - University of Kentucky
>
> Director, First-Year Engineering Program
> Professor, Electrical & Computer Engineering
> email: jklumpp@uky.edu
> phone: 859-257-4985

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ENGINEERING STANDING FOR ELECTRICAL ENGINEERING

CURRENT: Completion of a minimum of 35 semester hours acceptable towards the degree in engineering with a minimum cumulative grade-point average of 2.50. Completion of MA 113, MA 114, MA 213, PHY 231, CHE 105, and CIS/WRD 110 with a minimum cumulative GPA of 2.50 in these courses. Completion of EE 211 and EE 280 with passing grades. University repeat options may be utilized as appropriate. In addition, the Electrical and Computer Engineering Department will not permit a third admission into any of these courses. Students who do not meet these GPA requirements may request consideration based upon departmental review if the first two GPAs are 2.25 or greater and they receive a C or better in both EE 211 and EE 280.

PROPOSED: Completion of a minimum of 35 semester hours acceptable towards the degree in engineering with a minimum cumulative grade-point average of 2.50. Completion of MA 113, MA 114, MA 213, PHY 231, CHE 105, and CIS/WRD 110 with a minimum cumulative GPA of 2.50 in these courses. Completion of EE 211 and EE 282 with passing grades. University repeat options may be utilized as appropriate. In addition, the Electrical and Computer Engineering Department will not permit a third admission into any of these courses. Students who do not meet these GPA requirements may request consideration based upon departmental review if the first two GPAs are 2.25 or greater and they receive a C or better in both EE 211 and EE 282.

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CHANGE UNDERGRADUATE PROGRAM FORM

1. General Information

College:	Engineering	Department:	Chemical and Materials Engineering
Current Major Name:	Materials Engineering	*Proposed Major Name:*	*Materials Engineering*
Current Degree Title:	Bachelor of Science in Materials Engineering	*Proposed Degree Title:*	*Bachelor of Science in Materials Engineering*
Formal Option(s):	N/A	*Proposed Formal Option(s):*	*N/A*
Specialty Field w/in Formal Option:	N/A	*Proposed Specialty Field w/in Formal Options:*	*N/A*
Date of Contact with Associate Provost for Academic Administration[1]:	9/1/15		
Bulletin (yr & pgs):	2015-2016: Pages 250-51	CIP Code[1]: 14.1801	Today's Date: 9/21/15
Accrediting Agency (if applicable):	ABET		
Requested Effective Date:	☒ Semester following approval.	OR	☐ Specific Date[2]: _____
Dept. Contact Person:	T. John Balk	Phone: 257-4582	Email: john.balk@uky.edu

2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

Please list the courses/credit hours currently used to fulfill the University Studies/General Education curriculum:
Intellectual Inquiry in Arts and Creativity: Choose one course from approved list [3]
Intellectual Inquiry in the Humanities: Choose one course from approved list [3]
Intellectual Inquiry in the Social Sciences: Choose one course from approved list [3]
Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences: CHE 105 [4] and CHE 111 [1]
Composition and Communication I: CIS/WRD 110 [3]
Composition and Communication II: CIS/WRD 111 [3]
Quantitative Foundations: MA 113 [4]
Statistical Inferential Reasoning: STA 210 [3]
Community, Culture and Citizenship in the USA: Choose one course from approved list [3]
Global Dynamics: Choose one course from approved list [3]

Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.			
General Education Area		**Course**	**Credit Hrs**

[1] Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the (APAA) can provide you with that during the contact.

[2] Program changes are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

CHANGE UNDERGRADUATE PROGRAM FORM

I. Intellectual Inquiry (one course in each area)			
	Arts and Creativity	*choose from list*	*3*
	Humanities	*choose from list*	*3*
	Social Sciences	*choose from list*	*3*
	Natural/Physical/Mathematical	*CHE 105 & 111*	*5*
II. Composition and Communication			
	Composition and Communication I	CIS or WRD 110	3
	Composition and Communication II	CIS or WRD 111	3
III. Quantitative Reasoning (one course in each area)			
	Quantitative Foundations[3]	*MA 113*	*4*
	Statistical Inferential Reasoning	*STA 381*	*3*
IV. Citizenship (one course in each area)			
	Community, Culture and Citizenship in the USA	*choose from list*	*3*
	Global Dynamics	*choose from list*	3
		Total General Education Hours	*33*

3. Explain whether the proposed changes to the program (as described in sections 4 to 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).

Proposed curriculum includes elimination of CS 221 (First Course in Computer Science for Engineers) and addition of EGR 101, 102 and 103.
STA 381 will now be a required course, replacing STA 210.

4. Explain how satisfaction of the University Graduation Writing Requirement will be changed.

Current		*Proposed*	
☐ Standard University course offering. List: _____		☐ *Standard University course offering. List: _____*	
☒ Specific course – list:	MSE 407	☒ *Specific course) – list:*	*MSE 407*

5. List any changes to college-level requirements that must be satisfied.

Current		*Proposed*	
☐ Standard college requirement. List: _____		☐ *Standard college requirement. List: _____*	
☐ Specific required course – list:	_____	☐ *Specific course – list:*	_____

6. List pre-major or pre-professional course requirements that will change, including credit hours.

Current	*Proposed*
CIS/WRD 110 [3]	*CIS/WRD 110 [3]*
CIS/WRD 111 [3]	*CIS/WRD 111 [3]*
CHE 105 [4]	*CHE 105 [4]*
CHE 107 [3]	*CHE 107 [3]*

[3] Note that MA 109 is NOT approved as a Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

CHE 111 [1]	*CHE 111 [1]*
CHE 113 [2]	*CHE 113 [2]*
MA 113 [4]	*MA 113 [4]*
MA 114 [4]	*MA 114 [4]*
MA 213 [4]	*MA 213 [4]*
PHY 231 [4]	*PHY 231 [4]*
PHY 241 [1]	*PHY 241 [1]*
	MSE 201 [3]
	MSE 202 [1]
	EGR 101 [1]
	EGR 102 [2]
	EGR 103 [2]
	EM 221 [3]

7. List the major's course requirements that will change, including credit hours.

Current	*Proposed*
MSE 101 [1]	
CHE 236 [3]	*CHE 236 [3]*
CS 221 [2]	
CME 200 [3]	*CME 200 [3]*
EM 221 [3]	
MA 214 [3]	*MA 214 [3]*
PHY 232 [4]	*PHY 232 [4]*
MSE 202 [1]	
MSE 301 [3]	*MSE 301 [3]*
MSE 351 [3]	*MSE 351 [3]*
EM 302 [3]	*EM 302 [3]*
EE 305 [3]	*EE 305 [3]*
PHY 361 [3]	*PHY 361 [3]*
MSE 401G [3]	*MSE 401G [3]*
MSE 402G [3]	*MSE 402G [3]*
MSE 403G [3]	*MSE 403G [3]*
MSE 404G [3]	*MSE 404G [3]*
MSE 407 [3]	*MSE 407 [3]*
MSE 408 [3]	*MSE 408 [3]*
MSE 436 [3]	*MSE 436 [3]*
MSE 480 [3]	*MSE 480 [3]*
MSE 535 [3]	*MSE 535 [3]*
MSE 538 [3]	*MSE 538 [3]*
MSE 585 [3]	*MSE 585 [3]*
	STA 381 [3]

8. Does the pgm require a minor AND does the proposed change affect the required minor? ☒ N/A ☐ Yes ☐ No
If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*

CHANGE UNDERGRADUATE PROGRAM FORM

9. Does the proposed change affect any option(s)? ☒ N/A ☐ Yes ☐ No

If "Yes," indicate current courses and proposed changes below, including credit hours, and also specialties and subspecialties, if any.

Current	*Proposed*
____	____

10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
____	____

11. Does the change affect pgm requirements for technical or professional support electives? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
____	____

12. Does the change affect a minimum number of free credit hours or support electives? ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*
____	____

13. Summary of changes in required credit hours:

		Current	*Proposed*
a. Credit Hours of Premajor or Preprofessional Courses:		36	*45*
b. Credit Hours of Major's Requirements:		68	*64*
c. Credit Hours for Required Minor:		N/A	*N/A*
d. Credit Hours Needed for a Specific Option:		N/A	*N/A*
e. Credit Hours Outside of Major Subject in Related Field:		N/A	*N/A*
f. Credit Hours in Technical or Professional Support Electives:		6	*6*
g. Minimum Credit Hours of Free/Supportive Electives:		3	*3*
h. Total Credit Hours Required by Level:	100:	25	*29*
	200:	34	*29*
	300:	15	*18*
	400-500:	33	*33*
i. Total Credit Hours Required for Graduation:		131* Credit hrs. by level do not include UK core or elective requirements where level is	*130**

	unknown.	

14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to that.

See attached cover memo for a detailed description. The proposed changes include adding the new College of Engineering first-year engineering courses EGR 101, 102 and 103, removing MSE 101 and CS 221, and replacing STA 210 with STA 381.

15. List below the typical semester by semester program for the major. If multiple options are available, attach a separate sheet for each option.

YEAR 1 – FALL: **(e.g. "BIO 103; 3 credits")**	CIS/WRD 110 [3] MA 113 [4] EGR 101 [1] EGR 102 [2] CHE 105 [4] CHE 111 [1]	**YEAR 1 – SPRING:**	*CIS/WRD 111 [3]* *MA 114 [4]* *EGR 103 [2]* *PHY 231 [4]* *PHY 241 [1]* *UK Core [3]*
YEAR 2 - FALL :	MSE 201 [3] MSE 202 [1] MA 213 [4] CHE 107 [3] CHE 113 [2] EM 221 [3]	**YEAR 2 – SPRING:**	*MSE 301 [3]* *MSE 351 [3]* *MA 214 [3]* *PHY 232 [4]* *CHE 236 [3]*
YEAR 3 - FALL:	MSE 401G [3] MSE 404G [3] CME 200 [3] EM 302 [3] STA 381 [3] UK Core [3]	**YEAR 3 - SPRING:**	*MSE 402G [3]* *MSE 403G [3]* *MSE 407 [3]* *MSE 535 [3]* *PHY 361 [3]*
YEAR 4 - FALL:	MSE 408 [3] MSE 436 [3] MSE 585 [3] EE 305 [3] MSE Elective [3] UK Core [3]	**YEAR 4 - SPRING:**	*MSE 480 [3]* *MSE 538 [3]* *MSE Elective [3]* *Supportive Elective [3]* *UK Core [3]*

CHANGE UNDERGRADUATE PROGRAM FORM

Signature Routing Log

General Information:

Current Degree Title and Major Name: Bachelor of Science in Materials Engineering

Proposal Contact Person Name: T. John Balk Phone: 257-4582 Email: john.balk@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
CME Faculty	8/26/15	Douglass Kalika / 7-5507 / douglass.kalika@uky.edu	
COE Faculty	10/22/15	Kimberly Anderson / 7-1864 / Kimberly.anderson@uky.edu	
		/ /	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[4]
Undergraduate Council	12/15/15	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[4] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

Fall 2015

PROPOSED CHANGE IN UNDERGRADUATE PROGRAM

BACHELOR OF SCIENCE IN MATERIALS ENGINEERING

SUBMITTED BY: PROF. JOHN BALK

ENGINEERING STANDING REQUIREMENTS

Current Requirements:

Materials Engineering: Completion of CHE 105, CHE 107, CHE 111, CHE 113, MA 113, MA 114, MA 213, PHY 231, PHY 241, CIS/WRD 110 with a minimum cumulative grade-point average of 2.50 in these courses. Completion of MSE 201 with a grade of C or better. University repeat options may be applied as appropriate.

Proposed Requirements:

Materials Engineering: Completion of CHE 105, CHE 107, CHE 111, CHE 113, MA 113, MA 114, MA 213, PHY 231, PHY 241, CIS/WRD 110 with a minimum cumulative grade-point average of 2.50 in these courses. Completion of MSE 201 with a grade of C or better. University repeat options may be applied as appropriate.

(no change)

September 11, 2015

PROPOSED CHANGE IN UNDERGRADUATE PROGRAM BACHELOR OF SCIENCE IN MATERIALS ENGINEERING

SUBMITTED BY: PROF. T. JOHN BALK

OVERVIEW:

The Department of Chemical and Materials Engineering submits proposed curriculum changes to the Bachelor of Science degree in Materials Engineering. The proposed changes have been initiated to incorporate the components of the College of Engineering's first-year sequence, which is comprised of a total of five credits at the 100-level, as follows:

EGR 101 Engineering Exploration I [1 credit]

EGR 102 Fundamentals of Engineering Computing [2 credits]

EGR 103 Engineering Exploration II [2 credits]

The incorporation of EGR 101, 102 and 103 will result in the elimination of MSE 101 – *Materials Engineering,* as much of the content in this course will be covered in EGR 101. Similarly, the faculty have elected to remove CS 221 - *First Course in Computer Science for Engineers,* as this content will be addressed in EGR 102.

Also, STA 381 (*Engineering Statistics*) will now be a requirement for satisfaction of the UK Core component in Statistical Inferential Reasoning. This will replace the prior requirement of STA 210 (*Making Sense of Uncertainty: An Introduction to Statistical Reasoning*).

The introduction of the changes outlined above will result in an increase of two credits in the total number of hours required for the BS degree in Materials Engineering, which will increase from 131 hours to 133 hours.

DETAILS OF THE PROPOSED CHANGES:

Please refer to the proposed (semester-by-semester) course sequence, attached.

The following required courses will be added to the BS materials engineering curriculum:

EGR 101 Engineering Exploration I	[1]
EGR 102 Fundamentals of Engineering Computing	[2]
EGR 103 Engineering Exploration II	[2]
STA 381 Engineering Statistics	[3]

The following required courses will be removed from the BS materials engineering curriculum:

MSE 101	Materials Engineering	[1]
CS 221	First Course in Computer Science for Engineers	[2]
STA 210	An Introduction to Statistical Reasoning	[3]

Impact of Proposed Changes on Accreditation:

ABET accreditation requires the following with respect to the curriculum:

The curriculum requirements specify subject areas appropriate to engineering but do not prescribe specific courses. The faculty must ensure that the program curriculum devotes adequate attention and time to each component, consistent with the outcomes and objectives of the program and institution. The professional component must include:

(a) **one year** of a combination of college level mathematics and basic sciences (some with experimental experience) appropriate to the discipline. Basic sciences are defined as biological, chemical, and physical sciences.

(b) **one and one-half years of engineering topics,** consisting of engineering sciences and engineering design appropriate to the student's field of study.

(c) a **general education component** that complements the technical content of the curriculum and is consistent with the program and institution objectives.

Students must be prepared for engineering practice through a curriculum culminating in a major design experience based on the knowledge and skills acquired in earlier course work and incorporating appropriate engineering standards and multiple realistic constraints.

One year is the lesser of 32 semester hours (or equivalent) or one-fourth of the total credits required for graduation.

The proposed BSMAE curriculum readily satisfies all aspects of the ABET curriculum requirement (re: Table).

	Math/Science	Engineering	Gen. Education	Other
ABET Requirement	32	48	N/A	N/A
Current BSMAE Curriculum	40	62	24	5
Proposed BSMAE Curriculum	43	64	21	5

Impact of Proposed Changes on Total Credits for BS Materials Engineering Degree:

Current curriculum: **131 credits**

Proposed curriculum: **133 credits**

Bachelor of Science In Materials Engineering Curriculum

[Proposed]

FRESHMAN YEAR			
First Semester		Second Semester	
CIS/WRD 110 Comp. and Commun. I	3	CIS/WRD 111 Comp. and Commun. II	3
MA 113 Calculus I	4	MA 114 Calculus II	4
EGR 101 Engineering Exploration I	1	EGR 103 Engineering Exploration II	2
EGR 102 Fundamentals of Eng. Computing	2	PHY 231 General University Physics I	4
CHE 105 General College Chemistry I	4	PHY 241 General University Physics Lab I	1
CHE 111 Chemistry Lab I	1	UK Core	3
TOTAL HRS	**15**	TOTAL HRS	**17**
SOPHOMORE YEAR			
First Semester		Second Semester	
MSE 201 Materials Science	3	MSE 301 Materials Science II	3
MSE 202 Materials Science Laboratory	1	MSE 351 Material Thermodynamics	3
MA 213 Calculus III	4	MA 214 Calculus IV	3
CHE 107 General College Chemistry II	3	PHY 232 General University Physics II	4
CHE 113 Chemistry Lab II	2	CHE 236 Survey of Organic Chemistry	3
EM 221 Statics	3	TOTAL HRS	**16**
TOTAL HRS	**16**		
JUNIOR YEAR			
First Semester		Second Semester	
MSE 401G Metal and Alloys	3	MSE 402G Electronic Materials & Processing	3
MSE 404G Polymeric Materials	3	MSE 403G Ceramic Engineering & Processing	3
CME 200 Process Principles	3	MSE 407 Materials Laboratory I	3
EM 302 Mechanics of Deformable Solids	3	MSE 535 Mechanical Properties of Materials	3
STA 381 Engineering Statistics	3	PHY 361 Principles of Modern Physics	3
UK Core	3	UK Core	3
TOTAL HRS	**18**	TOTAL HRS	**18**
SENIOR YEAR			
First Semester		Second Semester	
MSE 408 Materials Laboratory II	3	MSE 480 Materials Design	3
MSE 436 Material Failure Analysis	3	MSE 538 Metals Processing	3
MSE 585 Materials Characterization Techniques	3	MSE Technical Elective	3
EE 305 Electrical Circuits and Electronics	3	Supportive Elective	3
MSE Technical Elective	3	UK Core	3
UK Core	3	TOTAL HRS	**15**
TOTAL HRS	**18**		

TOTAL HOURS = 133

Bachelor of Science In Materials Engineering Curriculum

[Proposed]

FRESHMAN YEAR			
First Semester		Second Semester	
CIS/WRD 110 Comp. and Commun. I	3	CIS/WRD 111 Comp. and Commun. II	3
MA 113 Calculus I	4	MA 114 Calculus II	4
EGR 101 Engineering Exploration I	1	EGR 103 Engineering Exploration II	2
EGR 102 Fundamentals of Eng. Computing	2	PHY 231 General University Physics I	4
CHE 105 General College Chemistry I	4	PHY 241 General University Physics Lab I	1
CHE 111 Chemistry Lab I	1	UK Core	3
TOTAL HRS	**15**	TOTAL HRS	**17**

SOPHOMORE YEAR			
First Semester		Second Semester	
MSE 201 Materials Science	3	MSE 301 Materials Science II	3
MSE 202 Materials Science Laboratory	1	MSE 351 Material Thermodynamics	3
MA 213 Calculus III	4	MA 214 Calculus IV	3
CHE 107 General College Chemistry II	3	PHY 232 General University Physics II	4
CHE 113 Chemistry Lab II	2	CHE 236 Survey of Organic Chemistry	3
EM 221 Statics	3	TOTAL HRS	**16**
TOTAL HRS	**16**		

JUNIOR YEAR			
First Semester		Second Semester	
MSE 401G Metal and Alloys	3	MSE 402G Electronic Materials & Processing	3
MSE 404G Polymeric Materials	3	MSE 403G Ceramic Engineering & Processing	3
CME 200 Process Principles	3	MSE 407 Materials Laboratory I	3
EM 302 Mechanics of Deformable Solids	3	MSE 535 Mechanical Properties of Materials	3
STA 381 Engineering Statistics	3	PHY 361 Principles of Modern Physics	3
UK Core	3	TOTAL HRS	
TOTAL HRS	**18**		**15**

SENIOR YEAR			
First Semester		Second Semester	
MSE 408 Materials Laboratory II	3	MSE 480 Materials Design	3
MSE 436 Material Failure Analysis	3	MSE 538 Metals Processing	3
MSE 585 Materials Characterization Techniques	3	MSE Technical Elective	3
EE 305 Electrical Circuits and Electronics	3	Supportive Elective	3
MSE Technical Elective	3	UK Core	3
UK Core	3	TOTAL HRS	**15**
TOTAL HRS	**18**		

TOTAL HOURS = 130

Brandenburg, Barbara J

Subject: FW: Re: Enrollment changes due College of Engineering Curriculum Changes

Janet,
Thank you for making me aware of the impact of these changes.
I have discussed this with my Director of Undergraduate students Jurek Jaromczyk and with my faculty and we understand that these changes will have impact on the enrollment in our courses.
Best,
Brent

On Thu, Sep 24, 2015 at 12:06 PM, Janet K. Lumpp <jklumpp@uky.edu> wrote:

> Dr. Seales,
>
> As you know, the degree programs in the College of Engineering are all proposing undergraduate Curriculum Changes as a result of the First-Year Engineering courses and other departmental initiatives. I am writing to make you aware of the changes that will affect several Computer Science courses no earlier than the Fall 2016 semester. As part of the proposal package, we need to include a reply from you acknowledging that you are aware of the changes that will impact enrollment in these courses.
>
> CS 270 will be required for BS degrees in Computer Engineering
>
> CS 115 will no longer be required for BS degrees in Computer Engineering and Electrical Engineering
> CS 221 will no longer be required for BS degrees in Biosystems Engineering, Civil Engineering, Materials Engineering, Mechanical Engineering and Mining Engineering
> CS 441 will no longer be required for BS degrees in Computer Engineering
> CS 470 will no longer be required for BS degrees in Computer Engineering
>
> Please reply all at your earliest convenience.
> Thanks,
> Janet
>
> --
> Dr. Janet K. Lumpp - University of Kentucky
>
> Director, First-Year Engineering Program
> Professor, Electrical & Computer Engineering
> email: jklumpp@uky.edu
> phone: 859-257-4985

--

Subject: RE: Changes to Statistic UK Core Requirement - Please respond to this one.
Date: Thursday, February 11, 2016 at 2:57:26 PM Eastern Standard Time
From: Stromberg, Arnold
To: Anderson, Kimberly, Rayens, William S
CC: Lumpp, Janet K

We approve of these changes.

Arnold J. Stromberg
Professor and Chair
Department of Statistics
University of Kentucky
313 Multidisciplinary Science Building
725 Rose Street
Lexington, KY 40536-0082
Phone: 859-257-6115
Fax: 859-323-1973

From: Anderson, Kimberly
Sent: Thursday, February 11, 2016 2:41 PM
To: Rayens, William S; Stromberg, Arnold
Cc: Lumpp, Janet K; Anderson, Kimberly
Subject: Changes to Statistic UK Core Requirement - Please respond to this one.

Hi Arny and Bill

Back in October, Janet Lumpp sent you an email regarding our changes to the Engineering curricula and I see where Arny responded saying that you are aware of the changes and will plan accordingly. We are now being told by the Senate Council that we need a more specific memo from you. As part of our curricular changes, we have 4 programs; Chemical Engineering, Materials Engineering, Electrical Engineering, and Computer Science who have made a change in their curricula that indicates that students are now REQUIRED to take STA 381 for the UK Core Statical Inferential Reasoning. Specifically, the changes are as follow;

Chemical Engineering: Changing UK Core Statical Inferential Reasoning from STAT 210 to STA 381
Materials Engineering: Changing UK Core Statical Inferential Reasoning from STAT 210 to STA 381

Electrical Engineering: Changing UK Core Statical Inferential Reasoning from "Choose one course from approved list" to STA 381
Computer Science: Changing UK Core Statical Inferential Reasoning from "Choose one course from approved list" to STA 381

If you are ok with these changes, please respond back and say you approve.

Thank you!
Kim

****

Dr. Kimberly Anderson, Associate Dean for Administration and Academic Affairs
Professor, Chemical Engineering
College of Engineering
University of Kentucky
371 Ralph G Anderson Building | Lexington, KY 40506-0030 | office 859.257.1864 | fax 859.257.5727
email kimberly.anderson@uky.edu | web http://www.engr.uky.edu

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CHANGE UNDERGRADUATE PROGRAM FORM

1. General Information

College: Engineering		Department: Mechanical	
Current Major Name: Mechanical Engineering		*Proposed Major Name:* *Mechanical Engineering*	
Current Degree Title: Bachelor of Science in Mechanical Engineering		*Proposed Degree Title:* *Bachelor of Science in Mechanical Engineering*	
Formal Option(s): N/A		*Proposed Formal Option(s):* *N/A*	
Specialty Field w/in Formal Option: N/A		*Proposed Specialty Field w/in Formal Options:* *N/A*	
Date of Contact with Associate Provost for Academic Administration[1]: 9/1/15			
Bulletin (yr & pgs): 2015-2016, Pages 251-252	CIP Code[1]: 14.1901	Today's Date: 09/21/2015	
Accrediting Agency (if applicable): ABET			
Requested Effective Date: ☒ Semester following approval.	OR	☐ Specific Date[2]: ____	
Dept. Contact Person: Dr. Tim Wu	Phone: 218-0644	Email: timwu@uky.edu	

2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

Please list the courses/credit hours currently used to fulfill the University Studies/General Education curriculum:
Intellectual Inquiry in Arts and Creativity: ME 411 (3)
Intellectual Inquiry in the Humanities: Choose one course from approved list (3)
Intellectual Inquiry in the Social Sciences: Choose one course from approved list (3)
Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences: PHY 231 (4) and PHY 241 (1)
Composition and Communication I: CIS/WRD 110 (3)
Composition and Communication II: CIS/WRD 111 (3)
Quantitative Foundations: MA 113 (4)
Statistical Inferential Reasoning: Choose one course from approved list. Recommended: STA 210 (3) or STA 381 (3)
Community, Culture and Citizenship: Choose one course from approved list (3)
Global Dynamics: Choose one course from approved list (3)

Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.

General Education Area		**Course**	**Credit Hrs**
I. Intellectual Inquiry (one course in each area)			
Arts and Creativity		*ME 411*	*3*

[1] Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the (APAA) can provide you with that during the contact.

[2] Program changes are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

	Humanities		*Choose from list*	*3*
	Social Sciences		*Choose from list*	*3*
	Natural/Physical/Mathematical		*PHY 231 & 241*	*5*
II. Composition and Communication				
	Composition and Communication I		CIS or WRD 110	3
	Composition and Communication II		CIS or WRD 111	3
III. Quantitative Reasoning (one course in each area)				
	Quantitative Foundations[3]		*MA 113*	*4*
	Statistical Inferential Reasoning		*STA 210 or 381*	*3*
IV. Citizenship (one course in each area)				
	Community, Culture and Citizenship in the USA		*Choose from list*	*3*
	Global Dynamics		*Choose from list*	*3*
			Total General Education Hours	*33*

3. Explain whether the proposed changes to the program (as described in sections 4 to 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).

The proposed curriculum change includes the addition of EGR 101, 102 and 103, and the elimination of CS 221.

4. Explain how satisfaction of the University Graduation Writing Requirement will be changed.

Current		*Proposed*	
☐ Standard University course offering. List: _____		☐ *Standard University course offering. List: _____*	
☒ Specific course – list:	WRD 204	☒ *Specific course) – list:*	*WRD 204*

5. List any changes to college-level requirements that must be satisfied.

Current		*Proposed*	
☐ Standard college requirement. List: _____		☐ *Standard college requirement. List: _____*	
☐ Specific required course – list:	_____	☐ *Specific course – list:*	_____

6. List pre-major or pre-professional course requirements that will change, including credit hours.

Current	*Proposed*
CIS/WRD 110 (3)	*CIS/WRD 110 (3)*
CIS/WRD 111 (3)	*CIS/WRD111(3)*
CHE 105 (4)	*CHE 105 (4)*
CHE 107 (3)	*CHE 107 (3)*
MA 113 (4)	*MA 113 (4)*
MA 114 (4)	*MA 114 (4)*
MA 213 (4)	*MA 213 (4)*
MA 214 (3)	*PHY 231 (4)*

[3] Note that MA 109 is NOT approved as a Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

PHY 231 (4)	*PHY 232 (4)*
PHY 232 (4)	*PHY 241 (1)*
PHY 241 (1)	*PHY 242 (1)*
PHY 242 (1)	
	EGR 101 (1)
	EGR 102 (2)
	EGR 103 (2)
	ME 205 (3)
	EM 221(3)

7. List the major's course requirements that will change, including credit hours.

Current	*Proposed*
ME 101 (3)	*MA 214 (3)*
ME 151 (3)	
ME 205 (3)	
ME 220 (3)	*ME 220 (3)*
CS 221 (2)	*ME 251 (3)*
EM 302 (3)	*EM 302 (3)*
EM 313 (3)	*EM 313 (3)*
EM 221 (3)	
EE 305 (3)	*EE 305 (3)*
ME 310 (3)	*ME 310 (3)*
ME 311 (3)	*ME 311 (3)*
ME 321 (3)	*ME 321 (3)*
ME 325 (3)	*ME 325 (3)*
ME 330 (3)	*ME 330 (3)*
ME 340 (3)	*ME 340 (3)*
ME 344 (3)	*ME 344 (3)*
ME 411 (3)	*ME 411 (3)*
ME 412 (3)	*ME 412 (3)*
ME 440 (3)	*ME 440 (3)*
ME 501 (3)	*ME 501 (3)*

8. Does the pgm require a minor AND does the proposed change affect the required minor? ☐ N/A ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*

9. Does the proposed change affect any option(s)? ☐ N/A ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below, including credit hours, and also specialties and subspecialties, if any.

Current	*Proposed*

10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

CHANGE UNDERGRADUATE PROGRAM FORM

Current	*Proposed*

11. Does the change affect pgm requirements for technical or professional support electives? ☐ Yes ☒ No
If so, indicate current courses and proposed changes below.

Current	*Proposed*

12. Does the change affect a minimum number of free credit hours or support electives? ☐ Yes ☒ No
If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*

13. Summary of changes in required credit hours:

		Current	*Proposed*
a. Credit Hours of Premajor or Preprofessional Courses:		38	*46*
b. Credit Hours of Major's Requirements:		59	*51*
c. Credit Hours for Required Minor:		N/A	*N/A*
d. Credit Hours Needed for a Specific Option:		N/A	*N/A*
e. Credit Hours Outside of Major Subject in Related Field:		N/A	*N/A*
f. Credit Hours in Technical or Professional Support Electives:		9	*9*
g. Minimum Credit Hours of Free/Supportive Electives:		3	*3*
h. Total Credit Hours Required by Level:	100:	27	*26*
	200:	28	*29*
	300:	30	*30*
	400-500:	12	*12*
i. Total Credit Hours Required for Graduation:		130	*130*

14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to that.

The Department of Mechanical Engineering is revising its undergraduate program to incorporate the college's new first-year student common experience. We are removing ME 101 and CS 221 from our current program, and are replacing them with EGR 101, EGR 102, and EGR 103. The net credit hours will remain the same as with the current program. Additionally, we are replacing ME 151 with ME 251 and are moving the class to later in the curriculum. The new course proposal for ME 251 has been submitted already through eCATS.

15. List below the typical semester by semester program for the major. If multiple options are available, attach a separate sheet for each option.

YEAR 1 – FALL: **(e.g. "BIO 103; 3 credits")**	EGR 101; 1 credit EGR 102; 2 credits CHE 105; 4 credits MA 113; 4 credits CIS/WRD 110; 3 credits	**YEAR 1 – SPRING:**	*EGR 103; 2 credits* *PHY 231; 4 credits* *PHY 241; 1 credit* *CHE 107 or UK Core; 3 credits*

			MA 114; 4 credits *CIS/WRD 111; 3 credits*
YEAR 2 - FALL :	PHY 232; 4 credits PHY 2421 credit MA 213; 4 credits UK Core or CHE 107; 3 credits ME 205; 3 credits EM 221; 3 credits	**YEAR 2 – SPRING:**	*ME 220; 3 credits* *ME 251; 3 credits* *MA 214; 3 credits* *EM 313; 3 credits* *UK Core; 3 credits* *UK Core; 3 credits*
YEAR 3 - FALL:	EM 302; 3 credits EE 305; 3 credits ME 330; 3 credits ME 340; 3 credits WRD 204; 3 credits	**YEAR 3 - SPRING:**	*ME 310; 3 credits* *ME 321; 3 credits* *ME 325; 3 credits* *ME 344; 3 credits* *Math Elective*
YEAR 4 - FALL:	ME 4113 credits ME 311; 3 credits ME 440; 3 credits ME 501; 3 credits Technical Elective #1; 3 credits	**YEAR 4 - SPRING:**	*ME 412; 3 credits* *Technical Elective #2; 3 credits* *Technical Elective #3; 3 credits* *Supportive Elective; 3 credits* *UK Core; 3 credits* *UK Core; 3 credits*

CHANGE UNDERGRADUATE PROGRAM FORM

Signature Routing Log

General Information:

Current Degree Title and Major Name: Bachelor of Science in Mechanical Engineering

Proposal Contact Person Name: Dr. Tim Wu Phone: 218-0644 Email: timwu@uky.edu

INSTRUCTIONS:
Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
ME Faculty	09/02/2015	Michael Renfro / 8-0643 / michael.renfro@uky.edu	
COE Faculty	10/22/15	Kimberly Anderson / 7-1804 / Kimberly.anderson@uky.edu	
		/ /	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[4]
Undergraduate Council	12/15/15	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[4] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

For new students beginning Fall 2014 and afterward

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Student Name: _____ **Advisor:** _____

Last First Middle

Student ID Number: _____

UK CORE COURSES			FRESHMAN YEAR			JUNIOR YEAR		
COURSE	sem/credits	grade	COURSE	sem/credits	grade	COURSE	sem/credits	grade
Foreign Language (2 yrs same lang HS or 2 sem coll.)			**First Semester**			**First Semester**		
			° ME 101 Intro. to Mechanical Engr.	/ 3		EM 302 Mechanics of Deform Solids	/ 3	
			° CHE 105 Gen Col Chemistry I	/ 4		EE 305 Elec. Circuits & Electronics	/ 3	
Intellectual Inquiry (four courses)			° MA 113 Calculus I* (+MA 193)	/ 4		ME 330 Fluid Mechanics	/ 3	
PHY 231/241 (NPMS)	/ 4/1		° CIS/WRD 110 Comp. & Comm. I	/ 3		ME 340 Intro. To Mechanical Systems	/ 3	
(Hum)			** UK Core Course	/ 3		** GCCR (WRD 204)	/ 3	
(SS)								
ME 411 (AC)			**Second Semester**			**Second Semester**		
			ME 151 Manufacturing Engineering	/ 3		ME 310 Engineering Experimentation I	/ 3	
Quantitative Reasoning (two courses)			CHE 107 Gen. Col. Chemistry II	/ 3		ME 321 Engr. Thermodynamics II	/ 3	
MA 113 (QF)	/ 4		° MA 114 Calculus II (+MA 194)	/ 4		ME 325 Elements of Heat Transfer	/ 3	
(SIR)			° CIS/WRD 111 Comp. & Comm. II	/ 3		ME 344 Mechanical Design	/ 3	
			** UK Core Course	/ 3		** Math Elective	/ 3	
Citizenship (two courses)								
(CCC)			**SOPHOMORE YEAR**			**SENIOR YEAR**		
(GD)			**First Semester**			**First Semester**		
			° PHY 231 Gen. Univ. Physics*	/ 4		ME 411 Senior Capstone Design I*	/ 3	
Extra Courses			° PHY 241 Gen. Univ. Physics Lab.*	/ 1		ME 311 Engr. Experimentation II	/ 3	
			° MA 213 Calculus III	/ 4		ME 440 Design of Control	/ 3	
			CS 221 First Course in CS for Engr.	/ 2		ME 501 Mech. Des. w/Finite Ele. Meth.	/ 3	
			ME 205 Intro. to Comp-Aided Engr.	/ 3		** Technical Elective	/ 3	
			EM 221 Statics	/ 3				
			Second Semester			**Second Semester**		
			ME 220 Engr. Thermodynamics I	/ 3		ME 412 Senior Design Project	/ 3	
			PHY 232 Gen. Univ. Physics	/ 4		** Technical Elective	/ 3	
			PHY 242 Gen. Univ. Physics Lab.	/ 1		** Technical Elective	/ 3	
			MA 214 Calculus IV	/ 3		Supp. Elec. (Ex: 3 Co-Op Tours)	/ 3	
Engineering Standing			EM 313 Dynamics	/ 3		** UK Core Course	/ 3	
Cumulative UK GPA			** UK Core Course	/ 3		** UK Core Course	/ 3	
Pre-Engineering GPA							Total hours	130
Date			* Indicates course also counts as a UK Core course					
			** Indicates course to be selected from appropriate list			° Indicates core course counting toward Engineering Standing		
Minor:	**Courses:**							
Minor:	**Courses:**							

For new students beginning Fall 2016 and afterward

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Student Name: "A" revision 9/16/15 **Advisor:**

Last First Middle

Student ID Number:

UK CORE COURSES			FRESHMAN YEAR			JUNIOR YEAR		
COURSE	sem/credits	grade	COURSE	sem/credits	grade	COURSE	sem/credits	grade
Foreign Language (2 yrs same lang HS or 2 sem coll.)			**First Semester**			**First Semester**		
			° EGR 101 Engr Exploration I	/ 1		EM 302 Mechanics of Deform Solids	/ 3	
			° EGR 102 Fund Engr Computing	/ 2		EE 305 Elec. Circuits & Electronics	/ 3	
			° CHE 105 Gen Col Chemistry I	/ 4		ME 330 Fluid Mechanics	/ 3	
Intellectual Inquiry (four courses)			° MA 113 Calculus I* (+MA 193)	/ 4		ME 340 Intro. To Mechanical Systems	/ 3	
PHY 231/241 (NPMS)	/ 4/1		° CIS/WRD 110 Comp. & Comm. I	/ 3		**GCCR	/ 3	
(Hum)								
(SS)					14			15
ME 411 (AC)			**Second Semester**			**Second Semester**		
			° PHY 231 Gen. Univ. Physics *	/ 4		ME 310 Engineering Experimentation I	/ 3	
			° PHY 241 Gen. Univ. Physics Lab.*	/ 1		ME 321 Engr. Thermodynamics II	/ 3	
Quantitative Reasoning (two courses)			CHE 107 Chemistry II or **UK Core	/ 3		ME 325 Elements of Heat Transfer	/ 3	
MA 113 (QF)	/ 4		° MA 114 Calculus II (+MA 194)	/ 4		ME 344 Mechanical Design	/ 3	
(SIR)			° CIS/WRD 111 Comp. & Comm. II	/ 3		** Math Elective	/ 3	
			° EGR 103 Engr Exploration II	/ 2				
Citizenship (two courses)					17			15
(CCC)			**SOPHOMORE YEAR**			**SENIOR YEAR**		
(GD)			**First Semester**			**First Semester**		
			PHY 232 Gen. Univ. Physics	/ 4		ME 411 Senior Capstone Design I*	/ 3	
Extra Courses			PHY 242 Gen. Univ. Physics Lab.	/ 1		ME 311 Engr. Experimentation II	/ 3	
			° MA 213 Calculus III	/ 4		ME 440 Design of Control	/ 3	
			**UK Core or CHE 107 Chemistry II	/ 3		ME 501 Mech. Des. w/Finite Ele. Meth.	/ 3	
			ME 205 Intro. to Comp-Aided Engr.	/ 3		** Technical Elective	/ 3	
			+ EM 221 Statics	/ 3				
					18			15
			Second Semester			**Second Semester**		
			ME 220 Engr. Thermodynamics I	/ 3		ME 412 Senior Design Project	/ 3	
			ME 251 Manufacturing	/ 3		** Technical Elective	/ 3	
			MA 214 Calculus IV	/ 3		** Technical Elective	/ 3	
			EM 313 Dynamics	/ 3		Supp. Elec. (Ex: 3 Co-Op Tours)	/ 3	
Engineering Standing			** UK Core Course	/ 3		** UK Core Course	/ 3	
Cumulative UK GPA			** UK Core Course	/ 3		** UK Core Course	/ 3	
					18			18
Pre-Engineering GPA			+ EM 221 must be completed by end of sophomore year				Total hours	130
Date			* Indicates course also counts as a UK Core course					
			** Indicates course to be selected from appropriate list			° Indicates core course counting toward Engineering Standing		

CURRENT REQUIREMENTS FOR ENGINEERING STANDING

To earn engineering standing, mechanical engineering students must have completed at least 35 semester credit hours applicable to the degree program with a minimum cumulative GPA of 2.50. In addition, completion of ME 101,WRD/CIS 110,WRD/CIS 111 (or ENG 101 and ENG 102, or ENG 104), CHE 105, MA 113, MA 114, MA 213, PHY 231, PHY 241 with a minimum GPA of 2.50 in these courses.

While a student may exercise up to three official University of Kentucky Repeat Options to improve his/her cumulative grade point average, only one can be used for the subset of classes listed above for the purpose of calculating engineering standing. Written request for exception to the allowed number of repeats should be submitted to the ME Director of Undergraduate Studies.

Note to Transfer Students: Transfer students who have received more than 35 hours transfer credit in the degree program will be considered without the inclusion of ME 101. (In place of ME 101, transfer students will take a fourth technical elective.) Additionally, it is important to note if you receive acceptance of transfer credit for one of the above listed courses, the grades will be used in the calculation of the requisite GPAs necessary for engineering. **In no case** will an exception be made to the minimum acceptable grade point averages listed above.

PROPOSED REQUIREMENTS FOR ENGINEERING STANDING

To earn engineering standing, mechanical engineering students must have completed at least 35 semester credit hours applicable to the degree program with a minimum cumulative GPA of 2.50. In addition, completion of EGR 101, EGR 102, EGR 103, WRD/CIS 110,WRD/CIS 111 (or ENG 101 and ENG 102, or ENG 104), CHE 105, MA 113, MA 114, MA 213, PHY 231, PHY 241 with a minimum GPA of 2.50 in these courses.

While a student may exercise up to three official University of Kentucky Repeat Options to improve his/her cumulative grade point average, only one can be used for the subset of classes listed above for the purpose of calculating engineering standing. Written request for exception to the allowed number of repeats should be submitted to the ME Director of Undergraduate Studies.

Note to Transfer Students: Transfer students who have received more than 35 hours transfer credit in the degree program will be considered without the inclusion of EGR 101, EGR 102, and EGR 103. (In place of EGR 102, transfer students can use a CS 115 or CS 221 equivalent. In place of EGR 101 and EGR 103, transfer students will take EGR 111 or a fourth technical elective.) Additionally, it is important to note if you receive acceptance of transfer credit for one of the above listed courses, the grades will be used in the calculation of the requisite GPAs necessary for engineering. **In no case** will an exception be made to the minimum acceptable grade point averages listed above.

Brandenburg, Barbara J

Subject: FW: Re: Enrollment changes due College of Engineering Curriculum Changes

Janet,
Thank you for making me aware of the impact of these changes.
I have discussed this with my Director of Undergraduate students Jurek Jaromczyk and with my faculty and we understand that these changes will have impact on the enrollment in our courses.
Best,
Brent

On Thu, Sep 24, 2015 at 12:06 PM, Janet K. Lumpp <jklumpp@uky.edu> wrote:

> Dr. Seales,
>
> As you know, the degree programs in the College of Engineering are all proposing undergraduate Curriculum Changes as a result of the First-Year Engineering courses and other departmental initiatives. I am writing to make you aware of the changes that will affect several Computer Science courses no earlier than the Fall 2016 semester. As part of the proposal package, we need to include a reply from you acknowledging that you are aware of the changes that will impact enrollment in these courses.
>
> CS 270 will be required for BS degrees in Computer Engineering
>
> CS 115 will no longer be required for BS degrees in Computer Engineering and Electrical Engineering
> CS 221 will no longer be required for BS degrees in Biosystems Engineering, Civil Engineering, Materials Engineering, Mechanical Engineering and Mining Engineering
> CS 441 will no longer be required for BS degrees in Computer Engineering
> CS 470 will no longer be required for BS degrees in Computer Engineering
>
> Please reply all at your earliest convenience.
> Thanks,
> Janet
>
> --
> Dr. Janet K. Lumpp - University of Kentucky
>
> Director, First-Year Engineering Program
> Professor, Electrical & Computer Engineering
> email: jklumpp@uky.edu
> phone: 859-257-4985

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CHANGE UNDERGRADUATE PROGRAM FORM

1. General Information

College: Engineering | Department: Mining Engineering

Current Major Name: Mining Engineering | *Proposed Major Name:* *Mining Engineering*

Current Degree Title: BS in Mining Engineering | *Proposed Degree Title:* *BS in Mining Engineering*

Formal Option(s): None | *Proposed Formal Option(s):* *None*

Specialty Field w/in Formal Option: None | *Proposed Specialty Field w/in Formal Options:* *None*

Date of Contact with Associate Provost for Academic Administration[1]: 9/25/2015

Bulletin (yr & pgs): 2015/2016, pp 253-254 | CIP Code[1]: 14.2101 | Today's Date: 9/25/2015

Accrediting Agency (if applicable): ABET, Inc.

Requested Effective Date: ☒ Semester following approval. OR ☐ Specific Date[2]: _____

Dept. Contact Person: Joe Sottile | Phone: 257-4616 | Email: joseph.sottile@uky.edu

2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

Please list the courses/credit hours currently used to fulfill the University Studies/General Education curriculum:

(I) Intellectual Inquiry
Arts and Creativity: MNG 592 (3)
Humanities: select (3)
Social Science: select (3)
Natural/Physical/Mathematical: PHY 231 (4) / PHY 241 (1)
(II) Composition and Communication
Composition and Communication I CIS or WRD 110 (3)
Composition and Communication II: CIS or WRD 111 (3)
(III) Quantitative Reasoning
Quantitative Foundations: MA 113 (4)
Statistical Inferential Reasoning : MNG 335 (3)
(IV) Citizenship
Community, Culture, Citizenship in the USA: select (3)
Global Dynamics: select (3)

Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.

General Education Area	Course	Credit Hrs
I. Intellectual Inquiry (one course in each area)		

[1] Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the (APAA) can provide you with that during the contact.

[2] Program changes are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

Arts and Creativity	*MNG 592*	*3*
Humanities	*Select*	*3*
Social Sciences	*Select*	*3*
Natural/Physical/Mathematical	*PHY 231/241or CHE 105/111*	*5*
II. Composition and Communication		
Composition and Communication I	CIS or WRD 110	3
Composition and Communication II	CIS or WRD 111	3
III. Quantitative Reasoning (one course in each area)		
Quantitative Foundations[3]	*MA 113*	*4*
Statistical Inferential Reasoning	*MNG 335*	*3*
IV. Citizenship (one course in each area)		
Community, Culture and Citizenship in the USA	*Select*	*3*
Global Dynamics	*Select*	*3*
Total General Education Hours		*33*

3. Explain whether the proposed changes to the program (as described in sections 4 to 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).

Biosystems and Agricultural Engineering will be offering BAE 535 that will be cross-listed as MNG 535.The First-Year Engineering Program changes involve adding EGR 101, 102 and 103, removing CHE 107, CS 221 and EE 305, and giving students the option to take PHY 241 or CHE 111 to fulfill the UK Core Intellectual Inquiry N/P/M.
NOTE: In Item 4 below, MNG 371 fulfils the Graduation Composition and Communication Requirement, (GCCR) not the Graduation Writing Requirement.

4. Explain how satisfaction of the University Graduation Writing Requirement will be changed.

Current	*Proposed*
☐ Standard University course offering. List: _____	☐ *Standard University course offering. List:* _____
☒ Specific course – list: MNG 371	☒ *Specific course) – list: MNG 371 (no change)*

5. List any changes to college-level requirements that must be satisfied.

Current	*Proposed*
☐ Standard college requirement. List: _____	☐ *Standard college requirement. List:* _____
☐ Specific required course – list: _____	☐ *Specific course – list:* _____

6. List pre-major or pre-professional course requirements that will change, including credit hours.

Current	*Proposed*
CHE 105 (4)	*CHE 105 (4)*
CIS/WRD 110: Comp and Com I (3)	*CIS/WRD 110 (3)*

[3] Note that MA 109 is NOT approved as a Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

MA 113 (4)	*CIS/WRD 111 (3)*
MA 114 (4)	*MA 113 (4)*
MA 213 (4)	*MA 114 (4)*
PHYS 231 (4)	*MA 213 (4)*
Plus an additional 13 credit hours applicable towards the degree in mining engineering	*MNG 201 (3)*
Subtotal: Premajor Hours (36)	*PHY 231 (4)*
	PHY 241 (1) or CHE 111 (1)
	PHY 232 (4)
	EM 221 (3)
	EES 220 (4)
	EGR 101 (1)
	EGR 102 (2)
	EGR 103 (2)
	Subtotal: Premajor Hours (36)

7. List the major's course requirements that will change, including credit hours.

Current	*Proposed*
CHE 107 (3)	*MA 214 (3)*
CS 221 (2)	*EES 230 (3)*
EE 305 (3)	*EM 302 (3)*
EM 221 (3)	*EM 313 (3)*
EM 313 (3)	*ME 220 (3)*
EM 302 (3)	*ME 330 (3)*
EES 220 (4)	*MNG 211 (2)*
EES 230 (3)	*MNG 291 (3)*
MA 214 (3)	*MNG 301 (3)*
ME 220 (3)	*MNG 302 (1)*
ME 330 (3)	*MNG 303 (1)*
MNG 101 (1)	*MNG 311 (3)*
MNG 191 (1)	*MNG 322 (2)*
MNG 211 (2)	*MNG 331 (2)*
MNG 264 (3)	*MNG 332 (3)*
MNG 291 (2)	*MNG 335 (3)*
MNG 301 (3)	*MNG 341 (3)*
MNG 302 (1)	*MNG 351 (3)*
MNG 303 (1)	*MNG 371 (3)*
MNG 322 (2)	*MNG 435 (4)*
MNG 331 (2)	*MNG 463 (3)*
MNG 332 (3)	*MNG 551 (4)*
MNG 335 (3)	*MNG 535 (3)*
MNG 341 (3)	*MNG 575 or 580 (3)*
MNG 371 (3)	*MNG 591 (1)*
MNG 435 (4)	*MNG 592 (3)*
MNG 463 (3)	*Subtotal: Major hours (72)*
MNG 551 (4)	
MNG 591 (2)*	
MNG 592 (3)	
PHY 232 (4)	
PHY 241 (1)	
PHY 242 (1)	
Subtotal: Major Hours (85)	
* At the time of the last bulletin publication, MNG 591 was being converted from a 2 credit hour course to a 1	

credit hour course.

8. Does the pgm require a minor AND does the proposed change affect the required minor? ☒ N/A ☐ Yes ☐ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*

9. Does the proposed change affect any option(s)? ☒ N/A ☐ Yes ☐ No

If "Yes," indicate current courses and proposed changes below, including credit hours, and also specialties and subspecialties, if any.

Current	*Proposed*

10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
CHE 107 (3)	*Drop CHE 107(3)*
CS 221 (2)	*Drop CS 221 (2)*
EE 305 (3)	*MNG 311 (3) Replaces EE 305 (3)*
PHY 242 (1)	*Drop PHY 242 (1)*

11. Does the change affect pgm requirements for technical or professional support electives? ☒ Yes ☐ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
Technical electives (6)	*Technical electives (3)*

12. Does the change affect a minimum number of free credit hours or support electives? ☐ Yes ☒ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*

13. Summary of changes in required credit hours:

		Current	*Proposed*
a.	Credit Hours of Premajor or Preprofessional Courses:	36	*36*
b.	Credit Hours of Major's Requirements:	85	*68*
c.	Credit Hours for Required Minor:	NA	*NA*
d.	Credit Hours Needed for a Specific Option:	NA	*NA*
e.	Credit Hours Outside of Major Subject in Related Field:		
f.	Credit Hours in Technical or Professional Support Electives:	9	*6*
g.	Minimum Credit Hours of Free/Supportive Electives:	3	*3*
h.	Total Credit Hours Required by Level: 100:	20	*23-24*
	200:	39	*36-37*
	300:	34	*36*

	400-500:	18	21
i. Total Credit Hours Required for Graduation:		134	135

14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to that.

There are two reasons for the proposed changes:
(1) Continuous improvement process required by ABET, Inc indicated a need for increased emphasis in reserve modeling, environmental control and mitigation, mine design, and hard-rock mining methods.
(2) The College of Engineerng is planning to implement a common first-year engineering curriculum for all freshmen who are admitted into the College of Engineering.

15. List below the typical semester by semester program for the major. If multiple options are available, attach a separate sheet for each option.

YEAR 1 – FALL: (e.g. "BIO 103; 3 credits")	CHE 105 (4 cr) CIS/WRD 110 (3 cr) EGR 101 (1 cr) EGR 102 (2 cr) MA 113 (4 cr) Total: 14 Credits	**YEAR 1 – SPRING:**	*CIS/WRD 111 (3 cr)* *EGR 103 (2 cr)* *MA 114 (4)* *PHY 231 (4 cr)* *PHY 241 or CHE 111 (1)* *UK Core-USA Ctznship (3 cr)* *Total: 17 credits*
YEAR 2 - FALL :	EES 220 (4 cr) EM 221 (3 cr) MA 213 (4 cr) MNG 201 (3 cr) PHY 232 (4 cr) Total: 18 credits	**YEAR 2 – SPRING:**	*EES 230 (3)* *EM 302 (3)* *MA 214 (3 cr)* *ME 220 (3 cr)* *MNG 291 (3 cr)* *MNG 303 (1 cr)* *MNG 331 (2 cr)* *Total: 18 credits*
YEAR 3 - FALL:	ME 330 (3 cr) MNG 211 (2 cr) MNG 301 (3 cr) MNG 302 (1 cr) MNG 335 (3 cr) MNG 351 (3 cr) UK Core - Social Science (3 cr) Total: 18 credits)	**YEAR 3 - SPRING:**	*MNG 311 (3 cr)* *MNG 322 (2 cr)* *MNG 371 (3 cr)* *MNG 435 (4 cr)* *MNG 463 (3 cr)* *Min Pro Tech Elec (3 cr)* *Total 18 credits*
YEAR 4 - FALL:	EM 313 (3 cr) MNG 332 (3 cr) MNG 341 (3 cr) MNG 551 (4 cr) **MNG 535 (3 cr)** MNG 591 (1 cr) Total: 17 credits	**YEAR 4 - SPRING:**	*MNG 592 (3 cr)* *Supportive Elective (3 cr)* *Technical elective (3 cr)* *UK Core - Global Dyn (3 cr)* *UK Core - Humanities (3 cr)* *Total: 15 credits*

CHANGE UNDERGRADUATE PROGRAM FORM

Signature Routing Log

General Information:

Current Degree Title and Major Name: BS in Mining Engineering, Mining Engineering

Proposal Contact Person Name: Joe Sottile Phone: 257-4616 Email: joseph.sottile@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
MNG Faculty	9/25/2015	Rick Honaker / 7-1108 / rick.honaker@uky.edu	
BAE Faculty	10/2/2015	Sue Nokes / 218-4328 / sue.nokes@uky.edu	Sue E. Nokes
COE Faculty	10/22/15	Kimberly Anderson / 7-1864 / Kimberly.anderson@uky.edu	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[4]
Undergraduate Council	12/15/15	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[4] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

Brandenburg, Barbara J

From: Holloway, Lawrence E
Sent: Wednesday, October 07, 2015 10:47 AM
To: Lumpp, Janet K
Cc: Brandenburg, Barbara J; Hannemann, Regina; Smith, William T
Subject: RE: EE305 and Mining

Janet,

I am acknowledging receipt of your notice that Mining will no longer be requiring EE305.

I am copying Regina Hannemann, our instructor for EE305, and Bill Smith, who schedules our ECE classes, so that they are both aware of this change.

-Larry Holloway

Larry Holloway
Chair, Department of Electrical and Computer Engineering
Director, Power and Energy Institute of Kentucky
TVA Professor of Electrical and Computer Engineering
University of Kentucky, Lexington, KY 40506. USA
phone: 859-323-8523
ECE main phone: 859-257-8042
email: holloway@uky.edu

From: Lumpp, Janet K
Sent: Tuesday, October 6, 2015 7:39 PM
To: Holloway, Lawrence E <larry.holloway@uky.edu>
Subject: EE305 and Mining

Larry,

I sent you a request last Thursday to acknowledge that Mining is dropping EE305. Can you reply to that message and cc: BJ Brandenburg please. I know it was crazy busy last week with advisory board.

Thanks!
Janet

--
Dr. Janet K. Lumpp - University of Kentucky

Director, First Year Engineering Program
Professor, Electrical & Computer Engineering
email: jklumpp@uky.edu
phone: 859-257-4985

Name: _____ _____ _____ _____ Department: Mining Engineering Proposed (2016-2017)

Last First Middle Student Number

Course	Credit	Sem/Yr.	Grade
GENERAL EDUCATION			
nquiry - Arts and Creativity			
MNG 592	3		
nquiry - Humanities			
nquiry Natural/Physical/Math			
PHY 231 / 241	5		
or CHE 105 / 111			
Inquiry - Social Science			
Composition and Communication			
CIS/WRD 110	3		
CIS/WRD 111	3		
Quantitative Reasoning - Foundations			
MA 113	4		
Quantitative Reasoning - Statistical Inferential Reasonin			
MNG 335			
Citizenship - USA			
Citizenship - Global			
Foreign Language			
EXCESS COURSES			

† Inquiry N/P/M

Course	Credit	Sem/Yr.	Grade
FRESHMAN YEAR			
First Semester - Fall			**14**
CHE 105 Gen Col Chem I	4		
Comp and Com I (CIS/WRD 110)	3		
MA 113 Calculus I - QR Foundations	4		
EGR 101 Engineering Exploration I	1		
EGR 102 Fund of Eng Computing	2		
Second Semester - Spring			**17**
MA 114 Calculus II	4		
EGR 103 Engineering Exploration II	2		
Comp and Com II (CIS/WRD 111)	3		
PHY 231 Gen Univ Phy - Inquiry N/P/M	4		
PHY 241 or CHE 111 †	1		
Citizenship - USA	3		
SOPHOMORE YEAR			
First Semester - Fall			**18**
EM 221 Statics	3		
EES 220 Prin of Phy Geol	4		
MA 213 Calculus III	4		
MNG 201 Intro to Mining Engr	3		
PHY 232 Gen Univ Phy	4		
Second Semester - Spring			**18**
MA 214 Calculus IV	3		
EES 230 Fund of Geol I	3		
EM 302 Mech of Deform Sol	3		
ME 220 Engr Thermo I	3		
MNG 291 Elements of Mine Design	3		
MNG 303 Deform Sol Lab	1		
MNG 331 Expl and Blasting	2		

PRE-ENGINEERING:

ENGINEERING STANDING:

Course	Credit	Sem/Yr.	Grade
JUNIOR YEAR			
First Semester - Fall			**18**
ME 330 Fluid Mechanics	3		
MNG 211 Mine Surveying	2		
MNG 301 Minerals Proc	3		
MNG 302 Min Proc Lab	1		
MNG 335 Intro to Mine Sys (Quant. Reasng)	3		
MNG 351 Underground Mine Design	3		
Inquiry-Social Science	3		
Second Semester - Spring			**18**
MNG 322 Mine Safety and Health Mgmt	2		
MNG 371 Prof Dev of Mng Engrs	3		
MNG 311 Mine Elec Circuits	3		
MNG 435 Mine Sys Engr and Economics	4		
MNG 463 Surface Mine Design	3		
Min Proc Tech Elec	3		
SENIOR YEAR			
First Semester - Fall			**17**
MNG 332 Mine Plant Machinery	3		
MNG 341 Mine Ventilation	3		
MNG 564 Enviro Control Sys. Des & Reclam	3		
MNG 551 Rock Mechanics	4		
MNG 591 Mine Design Proj I	1		
EM 313 Dynamics	3		
Second Semester - Spring			**15**
MNG 592 Mine Design Proj II - Inquiry A&C	3		
Global Dynamics	3		
Technical Elective	3		
Inquiry - Humanities	3		
Supportive Elective	3		
Total Credits	**135**		

I.a. Inquiry in the Humanities: Select from list
I.b. Inquiry in Natural/Physical/Mathematical Sciences: PHY 231/241 or CHE 105/111
I.c. Inquiry in the Social Sciences: Select from list
I.d. Inquiry in Creativity and the Arts: MNG 592
II. Composition and Communication I: CIS/WRD 110
II. Composition and Communication II: CIS/WRD 111
III.a. Quantitative Foundations: MA 113
III.b. Statistical Inferential Reasoning: MNG 335
IV.a. Community, Culture, and Citizenship in the U.S.: Select from list
IV.b. Global Dynamics: Select from list

Name: _____ Department: Mining Engineering Fall 2015-Present

Last First Middle Student Number

Course	Credit	Sem/Yr.	Grade
GENERAL EDUCATION			
Inquiry - Arts and Creativity			
MNG 592	3		
Inquiry - Humanities			
Inquiry Natural/Physical/Math			
PHY 231	4		
PHY 241	1		
Inquiry - Social Science			
Composition and Communication			
CIS/WRD 110	3		
CIS/WRD 111	3		
Quantitative Reasoning - Foundations			
MA 113	4		
Quantitative Reasoning - Statistical Inferential Reasonin			
MNG 335	3		
Citizenship - USA			
Citizenship - Global			
Foreign Language			
EXCESS COURSES			
PROBATIONARY STATUS			

Course	Credit	Sem/Yr.	Grade
FRESHMAN YEAR			
First Semester - Fall			**17**
CHE 105 Gen Col Chem I	4		
CS 221 First CS Course for Engrs.	2		
Comp and Com I (CIS/WRD 110)	3		
MA 113 Calculus I - QR Foundations	4		
MNG 101 Intro to Mining Engr	1		
Inquiry-Social Science	3		
Second Semester - Spring			**16**
CHE 107 Gen Col Chem II	3		
MA 114 Calculus II	4		
MNG 191 Mine Graphics	1		
MNG 264 Mining Methods	3		
PHY 231 Gen Univ Phy - Inquiry N/P/M	4		
PHY 241 Gen Univ Phy Lab - Inquiry N/P/M	1		
SOPHOMORE YEAR			
First Semester - Fall			**18**
EM 221 Statics	3		
EES 220 Prin of Phy Geol	4		
MA 213 Calculus III	4		
MNG 331 Expl and Blasting	2		
PHY 232 Gen Univ Phy	4		
PHY 242 Gen Univ Phy Lab	1		
Second Semester - Spring			**17**
MA 214 Calculus IV	3		
Comp and Com II (CIS/WRD 111)	3		
EM 302 Mech of Deform Sol	3		
ME 220 Engr Thermo I	3		
MNG 291 Elements of Mine Design	2		
MNG 303 Deform Sol Lab	1		
MNG 322 Mine Safety and Health Mgmt	2		
PRE-ENGINEERING:			
ENGINEERING STANDING:			

Course	Credit	Sem/Yr.	Grade
JUNIOR YEAR			
First Semester - Fall			**18**
EE 305 Elec Circ & Electronics	3		
EES 230 Fund of Geol I	3		
ME 330 Fluid Mechanics	3		
MNG 211 Mine Surveying	2		
MNG 301 Minerals Proc	3		
MNG 302 Min Proc Lab	1		
MNG 335 Intro to Mine Sys	3		
Second Semester - Spring			**16**
EM 313 Dynamics	3		
MNG 371 Prof Dev of Mng Engrs	3		
MNG 435 Mine Sys Engr and Economics	4		
MNG 463 Sur Mine Des & Env Iss	3		
Min Proc Tech Elec	3		
SENIOR YEAR			
First Semester - Fall			**17**
MNG 332 Mine Plant Machinery	3		
MNG 341 Mine Ventilation	3		
MNG 551 Rock Mechanics	4		
MNG 591 Mine Design Proj I	1		
Citizenship - USA	3		
Technical Elective	3		
Second Semester - Spring			**15**
MNG 592 Mine Design Proj II - Inquiry A&C	3		
Global Dynamics	3		
Technical Elective	3		
Inquiry - Humanities	3		
Supportive Elective	3		
Total Credits	**134**		

a. Inquiry in the Humanities: Select from list
b. Inquiry in Natural/Physical/Mathematical Sciences: PHY 231/241
c. Inquiry in the Social Sciences: Select from list
d. Inquiry in Creativity and the Arts: MNG 592
Composition and Communication I: CIS/WRD 110
Composition and Communication II: CIS/WRD 111
a. Quantitative Foundations: MA 113
b. Statistical Inferential Reasoning: MNG 335
a. Community, Culture, and Citizenship in the U.S.: Select from list
b. Global Dynamics: Select from list

Mining Engineering
Engineering Standing Requirements

Current Requirements:

Completion of a minimum of 36 semester hours acceptable towards the degree in mining engineering with a minimum cumulative grade-point average of 2.50. Completion of CIS/WRD 110, MA 113, MA 114, MA 213, CHE 105 and PHY 231 with a minimum cumulative GPA of 2.50 in these courses. University repeat options may be utilized as appropriate. Students who do not meet these GPA requirements may request consideration based upon departmental review, if both of these GPA values are 2.25 or greater.

Proposed Requirements:

Completion of a minimum of 36 semester hours acceptable towards the degree in mining engineering with a minimum cumulative grade-point average of 2.50. Completion of CIS/WRD 110, MA 113, MA 114, MA 213, CHE 105 and PHY 231 with a minimum cumulative GPA of 2.50 in these courses. University repeat options may be utilized as appropriate. Students who do not meet these GPA requirements may request consideration based upon departmental review, if both of these GPA values are 2.25 or greater.

Brandenburg, Barbara J

Subject: FW: Re: Enrollment changes due College of Engineering Curriculum Changes

Janet,
Thank you for making me aware of the impact of these changes.
I have discussed this with my Director of Undergraduate students Jurek Jaromczyk and with my faculty and we understand that these changes will have impact on the enrollment in our courses.
Best,
Brent

On Thu, Sep 24, 2015 at 12:06 PM, Janet K. Lumpp <jklumpp@uky.edu> wrote:

> Dr. Seales,
>
> As you know, the degree programs in the College of Engineering are all proposing undergraduate Curriculum Changes as a result of the First-Year Engineering courses and other departmental initiatives. I am writing to make you aware of the changes that will affect several Computer Science courses no earlier than the Fall 2016 semester. As part of the proposal package, we need to include a reply from you acknowledging that you are aware of the changes that will impact enrollment in these courses.
>
> CS 270 will be required for BS degrees in Computer Engineering
>
> CS 115 will no longer be required for BS degrees in Computer Engineering and Electrical Engineering
> CS 221 will no longer be required for BS degrees in Biosystems Engineering, Civil Engineering, Materials Engineering, Mechanical Engineering and Mining Engineering
> CS 441 will no longer be required for BS degrees in Computer Engineering
> CS 470 will no longer be required for BS degrees in Computer Engineering
>
> Please reply all at your earliest convenience.
> Thanks,
> Janet
>
> --
> Dr. Janet K. Lumpp - University of Kentucky
>
> Director, First-Year Engineering Program
> Professor, Electrical & Computer Engineering
> email: jklumpp@uky.edu
> phone: 859-257-4985

--

Brandenburg, Barbara J

From:	Lumpp, Janet K
Sent:	Thursday, October 01, 2015 4:43 PM
To:	Brandenburg, Barbara J
Cc:	Lumpp, Janet K
Subject:	Fwd: Re: Enrollment changes due College of Engineering Curriculum Changes

-------- Forwarded Message --------
Subject: Re: Enrollment changes due College of Engineering Curriculum Changes
Date: Thu, 1 Oct 2015 16:33:25 -0400
From: Meier, Mark <mark.meier@uky.edu>
To: Lumpp, Janet K <jklumpp@uky.edu>
CC: Selegue, J P <selegue@uky.edu>, French, April N <april.french@uky.edu>

Hi Janet. I acknowledge that we have been informed of the proposed change that would remove the CHE 107 requirement for the BS in Mining Engineering and make CHE 111 optional.

Mark S. Meier
Chair, Department of Chemistry
meier@uky.edu
859 257-7082

On Oct 1, 2015, at 4:18 PM, Lumpp, Janet K <jklumpp@uky.edu> wrote:

I missed another change from Mining Engineering. Please acknowledge again.

CHE 107 will no longer be required for the BS in Mining Engineering
CHE 111 will be optional for the BS in Mining Engineering, it was not previously required.

Thanks,
Janet

On 9/25/2015 2:36 PM, Meier, Mark wrote:

Dr. Lumpp. Thank you for your message. I am now aware of the proposed change to require CHE 105 for students in the Computer Science degree program.

Mark S. Meier
Chair, Department of Chemistry
meier@uky.edu
859 257-7082

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CHANGE UNDERGRADUATE PROGRAM FORM

1. General Information

College:	Engineering	Department:	Civil Engineering
Current Major Name:	Civil Engineering	*Proposed Major Name:*	*same*
Current Degree Title:	B.S.C.E	*Proposed Degree Title:*	*same*
Formal Option(s):	NA	*Proposed Formal Option(s):*	_____
Specialty Field w/in Formal Option:	NA	*Proposed Specialty Field w/in Formal Options:*	_____

Date of Contact with Associate Provost for Academic Administration[1]:	9/1/15				
Bulletin (yr & pgs):	2015-16 pg 245	CIP Code[1]:	14.0801	Today's Date:	9/10/15
Accrediting Agency (if applicable):	Accreditation Board for Engineering and Technology (ABET, Inc)				
Requested Effective Date:	☒ Semester following approval.	OR	☐ Specific Date[2]: _____		
Dept. Contact Person:	Scott Yost	Phone:	257-4816	Email:	scott.yost@uky.edu

2. General Education Curriculum for this Program:

The new General Education curriculum is comprised of the equivalent of 30 credit hours of course work. There are, however, some courses that exceed 3 credits & this would result in more than 30 credits in some majors.

- There is no foreign language requirement for the new Gen Ed curriculum.
- There is no General Education Electives requirement.

Please list the courses/credit hours currently used to fulfill the University Studies/General Education curriculum:

Intellectual Inquiry in Arts and Creativity: EGR101 (1) and EGR103 (2)
Intellectual Inquiry in the Humanities: Choose one course from approved list (3)
Intellectual Inquiry in the Social Sciences: Choose one course from approved list (3)
Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences: PHY 231 (4) and PHY 241 (1)
Composition and Communication I: CIS/WRD 110 (3)
Composition and Communication II: CIS/WRD 111 (3)
Quantitative Foundations: MA 113 (4)
Statistical Inferential Reasoning: STA 381 (3)
Community, Culture and Citizenship: Choose one course from approved list (3)
Global Dynamics: Choose one course from approved list (3)

Please identify below the suggested courses/credit hours to fulfill the General Education curriculum.

General Education Area		**Course**	**Credit Hrs**
I. Intellectual Inquiry (one course in each area)			
Arts and Creativity		*ERG 101 and EGR 103*	*1/2*

[1] Prior to filling out this form, you MUST contact the Associate Provost for Academic Administration (APAA). If you do not know the CIP code, the (APAA) can provide you with that during the contact.

[2] Program changes are typically made effective for the semester following approval. No program will be made effective until all approvals are received.

	Humanities	*select from list*	*3*
	Social Sciences	*select from list*	*3*
	Natural/Physical/Mathematical	*PHY231/241*	*4/1*
II. Composition and Communication			
	Composition and Communication I	CIS or WRD 110	3
	Composition and Communication II	CIS or WRD 111	3
III. Quantitative Reasoning (one course in each area)			
	Quantitative Foundations[3]	*MA 113*	*4*
	Statistical Inferential Reasoning	*STA381*	*3*
IV. Citizenship (one course in each area)			
	Community, Culture and Citizenship in the USA	*select from list*	*3*
	Global Dynamics	*select from list*	*3*
	Total General Education Hours		*33*

3. Explain whether the proposed changes to the program (as described in sections 4 to 12) involve courses offered by another department/program. Routing Signature Log must include approval by faculty of additional department(s).

The proposed curriculum changes involve the addition of EGR 101, 102 and 103, and the elimination of CS 221 and CE 120. It also is adding the recently approve ERG 101/103 course for the UKCore arts and creativity.

4. Explain how satisfaction of the University Graduation Writing Requirement will be changed.

Current		*Proposed*	
☒ Standard University course offering. List: _____		☐ *Standard University course offering. List:* _____	
☒ Specific course – list:	WRD 204	☒ *Specific course) – list:*	*C or better in WRD 204*

5. List any changes to college-level requirements that must be satisfied.

Current		*Proposed*	
☐ Standard college requirement. List: _____		☐ *Standard college requirement. List:* _____	
☐ Specific required course – list:	_____	☐ *Specific course – list:*	_____

6. List pre-major or pre-professional course requirements that will change, including credit hours.

Current	*Proposed*
CIS/WRD110 or equivalent (3 hrs)	*CIS/WRD110 or equivalent (3 hrs)*
MA113 (4 hrs)	*CIS/WRD111 or equivalent (3 hrs)*
MA114 (4 hrs)	*MA113 (4 hrs)*
MA213 (4 hrs)	*MA114 (4 hrs)*
CHE105 (4 hrs)	*MA213 (4 hrs)*
CHE107 (3 hrs)	*CHE105 (4 hrs)*
PHY231 (4 hrs)	*CHE107 (3 hrs)*

[3] Note that MA 109 is NOT approved as a Quantitative Foundations course. Students in a major requiring calculus will use a calculus course (MA 113, 123, 137 or 138) while students not requiring calculus should take MA 111, PHI 120 or another approved course.

PHY241 (1 hr) CE120 (1 hr) CE106 (3 hrs) CE211 (4hrs) EM221 (3 hrs)	*PHY231 (4 hrs)* *PHY241 (1 hr)* *EGR 101 (1 hr)*** *EGR 102 (2 hr)*** *EGR 103 (2 hr)*** *CE106 (3 hrs)* *CE211 (4hrs)* *EM221 (3 hrs* *****proposed new courses)*

7. List the major's course requirements that will change, including credit hours.

Current	*Proposed*
CS 221 (2 hr) EM 302 (3 hr) MNG 303 (1 hr) MA 214 (3 hr) PHY 232 (4 hr) PHY 242 (1 hr) STA 381 (3 hr) EES 220 (4 hr) CE 303 (3 hr) CE 341 (4 hr) CE 381 (3 hr) CE 331 (3 hr) CE 351 (3 hr) CE 382 (3 hr) CE 461G (4 hr) CE 471G (4 hr) CE 401 (1 hr) CE 429 (3 hr)	*EM 302 (3 hr)* *MNG 303 (1 hr)* *MA 214 (3 hr)* *PHY 232 (4 hr)* *PHY 242 (1 hr)* *STA 381 (3 hr)* *EES 220 (4 hr)* *CE 303 (3 hr)* *CE 341 (4 hr)* *CE 381 (3 hr)* *CE 331 (3 hr)* *CE 351 (3 hr)* *CE 382 (3 hr)* *CE 461G (4 hr)* *CE 471G (4 hr)* *CE 401 (1 hr)* *CE 429 (3 hr)*

8. Does the pgm require a minor AND does the proposed change affect the required minor? ☒ N/A ☐ Yes ☐ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*
_____	_____

9. Does the proposed change affect any option(s)? ☒ N/A ☐ Yes ☐ No

If "Yes," indicate current courses and proposed changes below, including credit hours, and also specialties and subspecialties, if any.

Current	*Proposed*
_____	_____

10. Does the change affect pgm requirements for number of credit hrs outside the major subject in a related field? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
_____	_____

11. Does the change affect pgm requirements for technical or professional support electives? ☐ Yes ☒ No

If so, indicate current courses and proposed changes below.

Current	*Proposed*
_____	_____

12. Does the change affect a minimum number of free credit hours or support electives? ☒ Yes ☐ No

If "Yes," indicate current courses and proposed changes below.

Current	*Proposed*
technically there is no change, as CIS/WRD111, required by UKCORE, was mapped to the free elective place holder as it was not listed in our pre-major or major requirements.	*We have inlcuded CIS/WRD111 in our pre-major courses, and hence removed the placeholder free elective*

13. Summary of changes in required credit hours:

		Current	*Proposed*
a. Credit Hours of Premajor or Preprofessional Courses:		38	*45*
b. Credit Hours of Major's Requirements:		52	*50*
c. Credit Hours for Required Minor:		NA	*NA*
d. Credit Hours Needed for a Specific Option:		NA	*NA*
e. Credit Hours Outside of Major Subject in Related Field:		13	*13*
f. Credit Hours in Technical or Professional Support Electives:		18	*18*
g. Minimum Credit Hours of Free/Supportive Electives:		3	*3*
h. Total Credit Hours Required by Level:	100:	27	*29*
	200:	31	*31*
	300:	26	*26*
	400-500:	24	*24*
i. Total Credit Hours Required for Graduation:		132	*131*

14. Rationale for Change(s) – if rationale involves accreditation requirements, please include specific references to that.

Overall motivation is that the College of Engineering is proposing a common first year curriculum for all Freshman engineering students. In support of this, we have dropped CE 120 and CS 221 (decrease of 3 credit hours) and added the proposed EGR 101/102/103 (increase of 5 credit hours). The new ERG 101/103 were together approved for UKcore Arts and Creativity, and hence we will use that for our students (decrease of 3 credit hours). The result is a net 1 credit hour decrease (132 ==> 131) for the program. We reshuffled the courses in the 8 semester curricular plan and modified the admission requirements to Civil Engineering to accommodate the changes (dropped CE 120, added EGR 103).

Next, we cleaned up a few things: First we want to require a C or better in the GCCR course (WRD 204). Next we added CIS110 and CIS 111 as approved equivalent courses (instead of just requiring WRD 110/111). Finally we reworked a classes in the pre-major (increase) and major (decrease) list as well as adding CIS/WRD111 to the pre-major requirement list (and hence dropping the supportive/free elective in the electives list). Prior CIS/WRD111 was not listed in pre-major or major list.

As mentioned above, we had to make some changes in our admission criteria to the department to accommodate the dropping/adding courses for the common first year program. See the attached modification of the admission requirements for the Civil Engineering Program, called Engineering Standing. All the GPA and grade requirements are the same, just swapped out a two courses (dropped CE120, replaced with EGR103).

15. List below the typical semester by semester program for the major. If multiple options are available, attach a separate sheet for each option.

YEAR 1 – FALL: **(e.g. "BIO 103; 3 credits")**	UKCore: A&C (EGR 101) (1) EGR 102 (2) UKCore: C&C (CIS\WRD 110) (3) UKCore: QR QF(MA 113 (4) CHE 105 (4)	**YEAR 1 – SPRING:**	*UKCore: A&C (EGR 103) (2)* *UKCore: C&C (CIS\WRD 111) (3)* *MA 114 (4)* *UKCore: Physical (PHY 231) (4)* *UKCore: Physical (PHY 241) (1)* *UKCore: Social Science (3)*
YEAR 2 - FALL :	CE 211 (4) CHE 107 (3) EM 221 (3) MA 213 (4) CE 106 (3)	**YEAR 2 – SPRING:**	*EM 302 (3)* *MNG 303 (1)* *MA 214 (3)* *PHY 232 (4)* *PHY 242 (1)* *UKCore: QR SIR (STA 381) (3)*
YEAR 3 - FALL:	WRD 204 (3) EES 220 (4) CE 303 (3) CE 341 (4) CE 381 (3)	**YEAR 3 - SPRING:**	*CE 331 (3)* *CE 351 (3)* *CE 382 (3)* *Engr Science Elective (3)* *Math or Science Elective (3)* *UKCore: Humanities (3)*
YEAR 4 - FALL:	CE 461G (4) CE 471G (4) CE 48X (3) Design Elective (3) UKCore: Citizenship US (3)	**YEAR 4 - SPRING:**	*CE 401(1)* *CE 429 (3)* *Design Elective (3)* *Technical Elective (3)* *Supportive Elective (3)* *UKCore: Citizenship Global Dynamics (3)*

Signature Routing Log

General Information:

Current Degree Title and Major Name: B.S.C.E

Proposal Contact Person Name: Scott Yost Phone: 257-4816 Email: scott.yost@uky.edu

INSTRUCTIONS:
Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
CE Faculty	9/11/15	Reg Souleyrette / 257-5309 / souleyrette@uky.edu	
		/ /	
CE Faculty reaffirmed	12/11/15	Reg Souleyrette / 257-5309 / souleyrette@uky.edu	
		/ /	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[4]
Undergraduate Council	12/15/15	Joanie Ett-Mims	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

See attachments in support of this program changes application:
current CE curriculum
proposed CE curriculum
proposed engineering standing (admision requirements to CE program)

Note that we are formally requiring a C or better in the GCCR course

[4] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

CIVIL ENGINEERING UNDERGRADUATE PROGRAM-*proposed*

FRESHMAN YEAR

First Semester	Credit Hours	Second Semester	Credit Hours
UKCore: A&C (EGR 101 - Engineering Expolation I)	1	UKCore: A&C (EGR 103 - Engineering Expolation II)	2
EGR 102 - Fund Eng Computing	2	UKCore: C&C (CIS\WRD 111 - Comp and Comm II)	3
UKCore: C&C (CIS\WRD 110 - Comp and Comm I)	3	MA 114 - Calculus II	4
UKCore: QR QF(MA 113 - Calculus I)	4	UKCore: Physical (PHY 231 - Gen Univ Physics)	4
CHE 105 - Gen Coll Chem I	4	UKCore: Physical (PHY 241 - Gen Univ Physics Lab)	1
~~CE 120 Intro to Civil Engineering~~	~~1~~	UKCore: Social Science	3
Semester Hours	**14**	**Semester Hours**	**17**

SOPHOMORE YEAR

First Semester	Credit Hours	Second Semester	Credit Hours
CE 211 - Surveying	4	EM 302 - Mech of Deform Solids	3
CHE 107 - Gen Coll Chem II	3	MNG 303 - Deformable Solids Lab	1
EM 221 - Statics	3	MA 214 - Calculus IV	3
MA 213 - Calculus III	4	PHY 232 - Gen Univ Physics	4
CE 106 - Computer Graphics/Comm	3	PHY 242 - Gen Univ Physics Lab	1
		UKCore: QR SIR (STA 381- Intro Engg Statistics)	3
		~~UKCore: Arts & Creativity~~	
Semester Hours	**17**	**Semester Hours**	**15**

JUNIOR YEAR

First Semester	Credit Hours	Second Semester	Credit Hours
WRD 204 - Technical Writing*	3	CE 331 - Transportation Engrg**	3
EES 220 - Physical Geology	4	CE 351 - Intro Envr Engrg	3
CE 303 - Intro to Constr Engrg	3	CE 382 - Structural Analysis	3
CE 341 - Fluid Mechanics	4	Engr Science Elective (1)	3
CE 381 - CE Materials**	3	Math or Science Elective (2)	3
~~CS 221 - First Course in CS for Engrs~~	~~2~~	UKCore: Humanities	3
Semester Hours	**17**	**Semester Hours**	**18**

SENIOR YEAR

First Semester	Credit Hours	Second Semester	Credit Hours
CE 461G - Water Resources Engr**	4	CE 401 - Seminar**	1
CE 471G - Soil Mechanics**	4	CE 429 - CE Systems Design**	3
CE 48X - Structures Elective (3)	3	Design Elective (4)	3
Design Elective (4)	3	Technical Elective (5)	3
UKCore: Citizenship US	3	Supportive Elective (6)	3
		UKCore: Citizenship Global Dynamics	3
Semester Hours	**17**	**Semester Hours**	**16**

TOTAL SEMESTER HOURS 131

* GCCR course

** CE communication throughout the curriculum component

(1) ME 220 - Thermodynamics or EM 313 - Dynamics

(2) Math or Science Elective Options: MA 321, MA 322, MA 416G, MA 432G, BIO 208, CHE 230, CHE 236, EE 305, GEO 409G, GLY/EES 550, GLY/EES 585, MNG 551, or the other half of the Engineering Science Elective in (1). NOTE: MA 322 is required for a math minor.

(3) CE 482 or CE 486G

(4) Students are required to select two design electives from different areas. Chose from: CE 508, CE 531 or CE 533, CE 534, CE 549, CE 551, CE 579, CE 589. **Design elective courses are typically taught once a year.**

(5) Technical Electives are to be chosen from any of the courses at the 300-level or above that carry a CE prefix and in which a student is qualified to enroll, exclusive of required courses.**Engineering elective courses are typically taught once a year.**

(6) Supportive elective is to be chosen from any university course excluding more elementary versions of required courses such as pre-calculus mathematics or PHY 211. However, each CE area has at least one recommendation for the supportive elective. Please review the Optional Concentration section in the Civil Engineering Undergraduate Handbook. The supportive elective can be taken P/F.

CIVIL ENGINEERING UNDERGRADUATE PROGRAM

FRESHMAN YEAR

First Semester	Credit Hours	Second Semester	Credit Hours
CE 120 - Intro to Civil Engrg	1	CE 106 - Computer Graphics/Comm	3
UKCore: C&C (WRD 110 - Comp and Comm I)	3	MA 114 - Calculus II	4
UKCore: QR QF(MA 113 - Calculus I)	4	UKCore: Physical (PHY 231 - Gen Univ Physics)	4
UKCore: Arts & Creativity	3	UKCore: Physical (PHY 241 - Gen Univ Physics Lab)	1
UKCore: Social Science	3	CHE 105 - Gen Coll Chem I	4
Semester Hours	**14**	**Semester Hours**	**16**

SOPHOMORE YEAR

First Semester	Credit Hours	Second Semester	Credit Hours
CE 211 - Surveying	4	EES 220 - Physical Geology	4
CHE 107 - Gen Coll Chem II	3	EM 302 - Mech of Deform Solids	3
EM 221 - Statics	3	MNG 303 - Deformable Solids Lab	1
MA 213 - Calculus III	4	MA 214 - Calculus IV	3
UKCore: C&C (WRD 111 - Comp and Comm II)	3	PHY 232 - Gen Univ Physics	4
		PHY 242 - Gen Univ Physics Lab	1
Semester Hours	**17**	**Semester Hours**	**16**

JUNIOR YEAR

First Semester	Credit Hours	Second Semester	Credit Hours
WRD 204 - Technical Writing for CE*	3	CE 331 - Transportation Engrg**	3
CE 303 - Intro to Constr Engrg	3	CE 351 - Intro Envr Engrg	3
CE 341 - Fluid Mechanics	4	CE 382 - Structural Analysis	3
CE 381 - CE Materials**	3	Engr Science Elective (1)	3
UKCore: QR SIR (STA 381- Intro Engg Statistics)	3	Math or Science Elective (2)	3
CS 221 - First Course in CS for Engrs	2	UKCore: Humanities	3
Semester Hours	**18**	**Semester Hours**	**18**

SENIOR YEAR

First Semester	Credit Hours	Second Semester	Credit Hours
CE 461G - Water Resources Engr**	4	CE 401 - Seminar**	1
CE 471G - Soil Mechanics**	4	CE 429 - CE Systems Design**	3
CE 48X - Structures Elective (3)	3	Design Elective (4)	3
Design Elective (4)	3	Technical Elective (5)	3
UKCore: Citizenship US	3	Supportive Elective (6)	3
		UKCore: Citizenship Global Dynamics	3
Semester Hours	**17**	**Semester Hours**	**16**

TOTAL SEMESTER HOURS 132

* GCCR course

** CE communication throughout the curriculum component

(1) ME 220 - Thermodynamics or EM 313 - Dynamics

(2) Math or Science Elective Options: MA 321, MA 322, MA 416G, MA 432G, BIO 208, CHE 230, CHE 236, EE 305, GEO 409G, GLY/EES 550, GLY/EES 585, MNG 551, or the other half of the Engineering Science Elective in (1). NOTE: MA 322 is required for a math minor.

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Current Civil Engineering Standing.
Completion of CE 106, CE 120, CE 211, CHE 105, CHE 107, EM 221, WRD 110, MA 113, MA 114, MA 213, PHY 231, PHY 241 with a minimum cumulative grade-point average (GPA) of 2.50 in these classes and a **C** or better in each of them as well as 45 or more semester credit hours. University repeat options may be utilized. Students who do not meet this GPA requirement may request consideration based upon departmental review if this core GPA is 2.25 or greater. Students are limited to two applications for engineering standing.

Proposed Civil Engineering Standing.
Completion of CE 106, CE 211, CHE 105, CHE 107, EM 221, WRD\CIS 110, MA 113, MA 114, MA 213, PHY 231, PHY 241 with a minimum cumulative grade-point average (GPA) of 2.50 in these classes and a **C** or better in each of them, as well as 45 or more semester credit hours. University repeat options may be utilized. Students who do not meet this GPA requirement may request consideration based upon departmental review if this core GPA is 2.25 or greater. Students are limited to two applications for engineering standing.

Brandenburg, Barbara J

Subject: FW: Re: Enrollment changes due College of Engineering Curriculum Changes

Janet,
Thank you for making me aware of the impact of these changes.
I have discussed this with my Director of Undergraduate students Jurek Jaromczyk and with my faculty and we understand that these changes will have impact on the enrollment in our courses.
Best,
Brent

On Thu, Sep 24, 2015 at 12:06 PM, Janet K. Lumpp <jklumpp@uky.edu> wrote:

> Dr. Seales,
>
> As you know, the degree programs in the College of Engineering are all proposing undergraduate Curriculum Changes as a result of the First-Year Engineering courses and other departmental initiatives. I am writing to make you aware of the changes that will affect several Computer Science courses no earlier than the Fall 2016 semester. As part of the proposal package, we need to include a reply from you acknowledging that you are aware of the changes that will impact enrollment in these courses.
>
> CS 270 will be required for BS degrees in Computer Engineering
>
> CS 115 will no longer be required for BS degrees in Computer Engineering and Electrical Engineering
> CS 221 will no longer be required for BS degrees in Biosystems Engineering, Civil Engineering, Materials Engineering, Mechanical Engineering and Mining Engineering
> CS 441 will no longer be required for BS degrees in Computer Engineering
> CS 470 will no longer be required for BS degrees in Computer Engineering
>
> Please reply all at your earliest convenience.
> Thanks,
> Janet
>
> --
> Dr. Janet K. Lumpp - University of Kentucky
>
> Director, First-Year Engineering Program
> Professor, Electrical & Computer Engineering
> email: jklumpp@uky.edu
> phone: 859-257-4985

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