Brothers, Sheila

From: Schroeder, Margaret <m.mohr@uky.edu>
Sent: Thursday, April 26, 2018 8:58 PM
To: McCormick, Katherine; Brothers, Sheila
Cc: Lumpp, James; Brandenburg, Barbara J
Subject: Proposed New University Scholars Program: BSCOE Computer Engineering and MSEE Electrical Engineering
Attachments: USP - Computer Engineering and Electrical Engineering.pdf

Proposed New University Scholars Program: BSCOE Computer Engineering and MSEE Electrical Engineering

This is a recommendation that the University Senate approve the establishment of a new University Scholars Program: BSCOE Computer Engineering and MSEE Electrical Engineering in the Department of Electrical and Computer Engineering within the College of Engineering.

Rationale:
The University Scholars Program will allow qualified students to combine up to twelve hours of work toward their BS degree with 12 hours toward their MS degree. Students may use 500-level EE and CPE elective courses, as well as
other 400G-level and 500-level technical elective courses from selected upper division engineering, mathematics, statistics, computer science, physics, or other technically-related fields.

The revised proposal is attached.

Thanks!
Margaret

Margaret J. Mohr-Schroeder, PhD | Associate Professor of STEM Education - Mathematics | SAPC University Senate Committee Chair | University Senator/Senate Council Member | STEM PLUS Program Co-Chair | Department of STEM Education | University of Kentucky | www.margaretmohrschroeder.com | Schedule a Meeting with Me

NEW UNIVERSITY SCHOLARS PROGRAM (USP)

The University Scholars Program (USP) offers students the opportunity and challenge of integrating their undergraduate and graduate courses of study into a single, continuous program leading to both a baccalaureate and master's degree. The student's particular requirements will determine the amount of time needed to complete the program, but the two programs can be completed in less time than that required in a conventional program.

Once approved at the college level, your college will send the proposal to the Graduate Council (GC) for review and approval. (Requirements for the bachelor's degree must remain unchanged, so there is no review by the Undergraduate Council.) After approval by the GC, the GC will send your proposal to the Senate Council office for additional review via a committee and then to the Senate for approval. Once approved by the Senate, the Senate Council office will report approvals to the Provost, Registrar and other appropriate entities, including the contact person. The contact person listed on the form will be informed when the proposal has been sent to committee and other times as appropriate.

1. GENERAL INFORMATION

1a	Bachelor's major name: *Computer Engineering*				
1b	Bachelor's degree:	☐ Bachelor of Arts	Bachelor of Science	XX Other	
	If "Other," explain: BSCOE				
1c	Bachelor's degree home college:	College of Engineering			
1d	Bachelor's degree home department/school:	Department of Electrical and Computer Engineering			
1e	Graduate major name:	Electrical Engineering			
1f	Graduate degree:	☐ Master's of Arts	Master's of Science	☐ Master's of Education	XX Other
	If "Other," explain: MSEE				
1g	Graduate degree home college:	*College of Engineering*			
1h	Graduate degree home department/school:	Department of Electrical and Computer Engineering			
1i	Requested effective date:	☒ Semester after approval.	OR	☐ Specific Date[1]:	
1j	Contact person name: *James Lumpp*	Email: *jel@uky.edu*	Phone: *7-3895*		

2. OVERVIEW

2a	Provide a brief description of the proposed USP. (*300 word limit*)
	The Department of Electrical and Computer Engineering in the College of Engineering confers a BSCOE Degree in Computer Engineering (BSCOE) and a Masters of Science in Electrical Engineering (MSEE). The

[1] University Scholars Programs are typically made effective for the semester following approval. No program will be made effective unless all approvals, up through and including University Senate approval, are received.

BSCPE degree requires 131 credit hours and includes courses in both Electrical and Computer Engineering and Computer Science. The MSEE degree program has a thesis option (plan A) requiring 24 hours of coursework and a thesis; and a project option (plan B) requiring 30 hours of course work and a project. MSEE students are required to take three of six courses with a grade of B or better in each course from a set of courses referred to as the "core". This consists of EE 611 Deterministic Systems, EE 621 Electromagnetic Fields, EE 640 Stochastic Systems, EE 661 Solid-State Electronics, EE 685 Digital Computer Structure, and EE 641 Advanced Power Systems. The University Scholars Program will allow qualified students to combine up to twelve hours of work toward their BS degree with 12 hours toward their MS degree. Students may use 500-level EE and CPE elective courses, as well as other 400G-level and 500-level technical elective courses from selected upper division engineering, mathematics, statistics, computer science, physics, or other technically-related fields.

2b Explain the need (e.g. market demand). *(300 word limit)*

Demand for students with computing degrees is growing at a rate more than double the national average. This program allows us to nurture, encourage and reward our top undergraduate students. While the program will increase the quality of the graduate students within the MSEE degree program by recruiting the highest quality students from the pool of undergraduates, it will also produce students who are better prepared for leadership positions in industry. It is our goal to encourage our students with the most potential to pursue the USP and to work with them to develop a combined BS and MS plan of study that best prepares them for their intended careers.

2c Describe the target audience. *(150 word limit)*

The goal of the USP is to nurture and retain our most promising undergraduate students through a Master of Science degree. In particular, students who are completing their junior year and have completed at least 90 hours of course work with a minimum GPA in Computer Engineering of 3.5 and an overall GPA of at least 3.2.

3. Basic Requirements

3a ☒ Check to confirm that the USP is open to undergraduates with senior standing who have completed at least 90 hours of course work.

3b Undergraduates must have satisfied all UK Core requirements prior to applying. Yes ☐ No ☒

If "No," explain. (*150 word limit*)

The BSCOE program curriculum includes two UK Core classes in the senior year, UK Core - Citizenship in the fall and
UK Core - Global Dynamics in the spring. It would be difficult to require these to be completed earlier, and leaving them in the senior year will not have an impact on their ability to be successful in the University Scholars program.

3c Application to the USP is at the end of the student's junior year. Yes ☒ No ☐

If "No," explain. (*150 word limit*)

3d For admission to the USP, the undergraduate GPA is greater than or equal to 3.5 in the student's major (including cross-listed courses) and 3.2 overall. Yes ☒ No ☐

If "No," explain. (*150 word limit*)

3e	☒ Check box to confirm that application to the program will follow the current procedures for application to the Graduate School, subject to the conditions in questions 3a through 3d, above.
3f	☒ Check box to confirm that the USP is designed so that students will not take more than 16 credit hours per semester. (Permission to exceed that number is subject to approval by the Director of Graduate Studies and Dean of the Graduate School.)

4. Specific Course Requirements

4a	Up to twelve (12) credit hours from the bachelor's degree may be used towards the graduate degree. How many credits from the undergraduate degree will count towards the graduate degree?
	12
4b	List below the 400G- and 500-level courses in the bachelor's degree that will count towards the graduate degree. The student must be graded as a graduate student in the courses listed below for the course(s) to count towards the graduate degree.

Prefix & Number	Course Title	Credit Hrs
	400G or 500-level Technical Electives as defined by the Undergraduate Bulletin for Computer Engineering (currently courses selected from upper-division engineering, mathematics, statistics, computer science, physics, or other technically-related fields).	0 - 6
	500-level CPE Electives as defined by the Undergraduate Bulletin for Computer Engineering (currently 500-level CPE courses with emphasis in the computer engineering area, excluding EE 595).	0 - 9
	500-level Hardware Electives as defined by the Undergraduate Bulletin for Computer Engineering (currently senior level courses in the CPE or EE disciplines, selected from the following list in consutlation with academic advisor: EE582, CPE584, CPE585, CPE586).	0-3
	500-level SoftwareElectives as defined by the Undergraduate Bulletin for Computer Engineering (currently senior level courses in the CPE or CS disciplines selected from the following list selected in consutlation with academic advisor: CS570, CPE588)	0-3
	TOTAL NUMBER OF CREDIT HOURS:	max 12 overall

4a.	Does the USP involve prerequisite courses[2] or concurrent enrollment[3] in certain courses?	Yes ☐	No ☒
	If "Yes," please list the courses below.		

[2] Prerequisite courses are completed prior to initiation of the USP, i.e. at the undergraduate level.
[3] Concurrent enrollment courses are in progress, i.e. in which the student is be currently enrolled.

Prefix & Number	Course Title	Credit Hrs	Course Type[4]
			Select one....
			Select one....
			Select one....
			Select one....
			Select one....
			Select one....
			Select one....
			Select one....
			Select one....
			Select one....

4b	Provide the Bulletin language for prerequisite or concurrent enrollment courses.

5. ADMINISTRATION AND ASSESSMENT

5a	Describe how the proposed USP will be administered, including admissions, student advising, retention, etc. *(150 word limit)*
	In their junior year, students pursuing a BSCOE in Computer Engineering who meet the following criteria may apply to the BSCOE/MSEE University Scholars Program. (1) The student must have completed at least 90 hours of course work. (2) The applicant must have a GPA in Computer Engineering of at least 3.5 and an overall GPA of at least 3.2. (3) The student must meet the admission standards of the UK Graduate School and the MSEE degree requirements. Students will be advised by the BSCOE Degree Program advisor for the portion of the USP work that applies to the requirements for their BSCOE Degree as well as the Director of Graduate Studies for the MSEE degree program for their MSEE plan of study and course selection.
5b	Describe evaluation procedures for the proposed USP. Include how to determine whether the USP is a success or a failure. *(250 word limit)*
	The BSCOE/MSEE University Scholars Program will be reviewed annually by the Chair of the Electrical and Computer Department, The Director of Graduate Studies for the MSEE Degree Program, and the Director of Undergraduate Studies for the BSCOE Degree Program. The success or failure of the proposed program will be evaluated based on (1) the number of students applying to the program, (2) the number of students successfully completing the program, and (3) the relative quality of the students participating in the USP compared to the overall cohort of MSEE students as well as cohorts of MSEE students that received BSCOE degrees and pursued MSEE degrees but that did not participate in the USP. The relative quality of the student cohorts will be based on GPA and rubrics applied to their MSEE thesis or project.

6. MISCELLANEOUS

6a	Is there anything else about the proposed USP that should be mentioned? *(150 word limit)*

[4] Use the drop-down list to indicate if the course is a prerequisite or may be taken currently.

7. APPROVALS/REVIEWS

Document steps in the approval process below.

	Reviewing Group Name	Date Approved	Contact Person Name/Phone/Email
7a	(Within College) *In addition to the information below, attach documentation of department and college approval. This typically takes the form of meeting minutes but may also be an email from the unit heads reporting department- and college-level votes.*		
	ECE Faculty	*9/9/2016*	*Mike Johnson / 7-0717 / mike.johnson@uky.edu*
	CoE Faculty	3/22/16	
			/ /
			/ /
7b	(Collaborating and/or Affected Units)		
			/ /
			/ /
			/ /
			/ /

7c	(Senate's Academic Councils)	Date Approved	Contact Person Name
	Health Care Colleges Council (if applicable)		
	Graduate Council	3/23/18	Roshan Nikou,

Michael T. Johnson

Michael T Johnson
Chair, Electrical and Computer Engineering

Kimberly W Anderson
Associate Dean