Program of Study Request

Exit

Form Id: 15742 **Form Status: Process**

Please take action on the form.

This service has been developed initially to support the conversion of the university's course inventory from a quarters to a semesters curriculum. **Getting started ...**

Type of Request:

(•) New ( ) Modify ( ) Deactivate ( ) Terminate ( ) Quarter to Semester

For *Deactivate*, the program must be terminated no later than the conclusion of 7 years from the deactivation and all students must complete degree requirements by this date. The Registrar's Office will notify the department when all students have completed degree requirements of the deactivated program.

Client Info

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Location:	Russ Engineering Center 311, 3640 Colonel Gle

Program of Study

EE - Ele&Comp Egr Technology-BSECET

Effective Term: Fall 2017
Level: Undergraduate

College of Egr & Computer Sci

Degree: BS in Ele&Comp Egr Technology *New
Major: Ele&Comp Egr Technology *New
Minor:
Program: Ele&Comp Egr Technology-BSECET *New
Concentration:

Add'l Info:

Approvals

Activity	Role	Client	Status	Time
		Primary Route		
Dept_Review	Dept of Electrical Engineering	Brian D. Rigling	Review	09/22/2016 11:31:37
CCC_Eval	UG Chair of College of Egr & Computer Sci	Vanessa Lynn Starkey	Approve	12/08/2016 12:18:06
Dean_Review	Dean of College of Egr & Computer Sci	Nathan W. Klingbeil	Review	12/13/2016 10:46:35
UCAP_Eval	UCAP Chair	Karen Meyer	Approve	12/15/2016

16:57:32

Office Route		
Registrar_Proc	Registrar Office	Pending

Notes Attach Audit

Share with a colleague (Simple Webmail Client)

3640 Colonel Glenn Highway - Dayton, Ohio - 45435

Academic Program Quarter to Semester Conversion and New Semester Program

College	CECS
Department	Electrical Engineering
Degree (A.A. B.S., B.F.A., etc.) & Title	BS in Electrical & Computer Engineering Technology
Concentration, Track, Option, Specialization	
Minor Program Title	
Certificate Program Title	

Old Semester Program	**Hours**

New Semester Program	**Hours**
I. Wright State Core	**41**
Communications: ENG 1100(3), {EGR 3350(3) or ENG 2140(3)}	6
Mathematics: MTH 2300(4) or MTH 2240(4)	4
Global Traditions: 6 hours	6
Arts/Humanities: 3 hours	3
Social Science: 6 hours	6
Natural Science: {PHY 2400(4)/PHY 2400L(1) and PHY 2410(4)/PHY 2410L(1)} or {PHY 1110(4)/PHY 1110L(1) and PHY 1120(4)/PHY 1120L(1)}*	10
Additional Core Courses:	6
II. Electrical Engineering Courses	**38**
EE 1000(1), EE 2000(3), EE 2000L(1), EE 2010(3), EE 2010L(1)	9
EE 2020(3), EE 2020L(1), EE 3310(3), EE 3310L(1), EE 3510(3),	11
EE 3520(3), EE 3520L(1), EE 4120(3), EE 4120L(1)	8
EE 4620(3), EE 4620L(1)	4
Senior Design: EE 4910(3) and EE 4920(3)	6
III. CECS Courses	**23**
CEG 2170(4), CEG 2171(4)	8
CEG 2350(4), CEG 3310(4)	8
CS 2200(4), CS 3100(3)	7
IV. Technical Electives from an approved list	**18**
Total	**120**

Notes:

*Students in the PHY2400 and PHY2410 pathway must take MTH2300

Proposed Major in Electrical and Computer Engineering Technology

I. **Title of Program:** Bachelor of Science in Electrical and Computer Engineering Technology
Department: Electrical Engineering
College: College of Engineering and Computer Science

II. Objectives:

The B.S. in Electrical & Computer Engineering Technology prepares students for real-world problem solving and design of electronic, computer, and software systems through a comprehensive curriculum of modern electrical & computer engineering design skills.

Undergraduate Electrical and Computer Engineering Technology Program Learning Goals

The goal of the program is to train students in modern electrical & computer engineering design skills, with the objective of post-graduation employment in a related field. This will be achieved through attainment of the following student outcomes, as specified by the ABET Engineering Technology Accreditation Commission. Each of these outcomes is addressed in one or curricular requirements of the program.

Undergraduate Electrical and Computer Engineering Technology Program Core Skills

(a) an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities
(b) an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies
(c) an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes
(d) an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives
(e) an ability to function effectively as a member or leader on a technical team
(f) an ability to identify, analyze, and solve broadly-defined engineering technology problems
(g) an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature
(h) an understanding of the need for and an ability to engage in self-directed continuing professional development
(i) an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity
(j) a knowledge of the impact of engineering technology solutions in a societal and global context
(k) a commitment to quality, timeliness, and continuous improvement

III. Descriptions (catalog):

The Department of Electrical Engineering will offer a program leading to a Bachelor of Science (BS) degree in Electrical and Computer Engineering Technology.

The curriculum offers students an in-depth foundation in Electrical and Computer Engineering Technology from the ground up by an interdisciplinary team of Wright State University faculty. This program uniquely emphasizes how requisite coursework from multiple fields of engineering and computer science relate to and can be applied to engineering technology, and is achieved via pedagogical best practices focused on engaging students in their learning, such that they are actively involved in understanding engineering concepts and ideas, and fostering scientific creativity and critical thinking.

The program's coursework focuses on foundational electrical and computer engineering topics to prepare students for real-world problem solving and design of electronic, computer, and software systems through a comprehensive curriculum of modern electrical & computer engineering design skills.

This program will aid in students being competitively prepared for careers in a variety of fields, including, but not limited to: automated manufacturing; electronics engineering; electrical engineering, electronics, or engineering technology; field service engineering; field test engineering; and systems engineering.

IV. Admission Requirements:

Domestic high school students will be granted admission to Wright State University upon fulfilling one of the following options.

- Option 1
  - Complete the Ohio Core curriculum (or equivalent curriculum),
  - Achieve a minimum cumulative high school grade point average of 2.0, and
  - Achieve an ACT composite score of 15 or SAT score of 740 (combined critical reading and math)
- Option 2
  - Complete the Ohio Core curriculum (or equivalent curriculum),,
  - Achieve a minimum cumulative high school grade point average of 2.5, and
  - Submit any ACT/SAT score

To be admitted to the BSECET major, students must complete 24 or more semester hours of college-level coursework with a 2.25 GPA or higher, must complete ENG 1100 (or any WSU Core First-Year Writing Course) with a C or higher, and must satisfy the admission requirements for the BSECET, which includes earning a C or higher in CEG 2170, (PHY 1110/L or PHY 2400/L), and (MTH 2240 or MTH 2300).

Transfer credit is first evaluated by the University Registrar, and as appropriate is posted to the student's transcript. Posted courses are then evaluated as needed by the Undergraduate Studies Committee to determine applicability to a student's program of study. For a BS degree, a minimum of 30 semester hours must be earned at Wright State University. Credit can also be granted via College Credit Plus and Prior Learning Assessment. Prior learning assessment is a student-centered and faculty-driven process for awarding students college credit for demonstrated knowledge that was adopted in 2015. Credit may be awarded through three mechanisms: standardized exams,

internally administered exams, and portfolio assessment. Standardized exams include the following.

- Advanced Placement (AP) examinations
- College Level Examination Program (CLEP)
- DANTES Subject Standardized Tests (DSST)
- Excelsior Collee Credit by Examinations (ECE)
- International Baccalaureate (IB) examinations

Course equivalencies for the standardized tests are determined by academic unit that offers the course, subject to Ohio Board of Regents requirements. Courses available for credit by standard examination, along with the required score to earn credit, are listed on the Prior Learning Assessment web site.

V. Program Requirements:

The program requirements can be found in the attached program of study.

VI. Program Quality:

For undergraduate programs in the Department of Electrical Engineering, the continuous improvement process, which includes program assessment, evaluation, and actions, is under the charge of the Undergraduate Studies Committee, which is chaired by the faculty member elected as Director of Undergraduate Studies. Consistent with ABET best practices, student outcomes in support of each program are assessed on a 3-year cycle. Outcomes are assessed by collecting student performance indicators from graded student work (e.g., quiz/exam problems, projects, lab reports) within classes required by the program that impact those outcomes or that have relevant course prerequisites.

Per the 3-year cycle, data on 1/3rd of student outcomes is collected in each year. That data is then evaluated by the Undergraduate Studies Committee in the following year, and any curricular actions are implemented in the year after that (the 3rd year of the cycle). At the point, a new data collection cycle will have begun, and data is collected of those same outcomes again to close the loop and check for improvements in student performance. As part of this process, the Undergraduate Studies Committee produces an annual report on program assessment and improvement actions that is distributed to the full department faculty for review and that is archived for future accreditation visits.

The program assessment schedule for the proposed program is illustrated in the table below.

Student outcome / Course Used for Assessment *Assessment year in cycle for each outcome indicated by number in intersection of outcome and course*	*EE3310*	*EE3510*	*EE3520*	*EE4120*	*EE4620*	*EE4910*	*EE4920*
(a) an ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities				*2*	*2*		
(b) an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied	*3*	*3*	*3*				

procedures or methodologies							
(c) an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes	*1*		*1*				
(d) an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives				*1*		*1*	*1*
(e) an ability to function effectively as a member or leader on a technical team						*2*	*2*
(f) an ability to identify, analyze, and solve broadly-defined engineering technology problems					*2*		
(g) an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature						*1*	*1*
(h) an understanding of the need for and an ability to engage in self-directed continuing professional development						*2*	*2*
(i) an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity						*3*	*3*
(j) a knowledge of the impact of engineering technology solutions in a societal and global context						*3*	*3*
(k) a commitment to quality, timeliness, and continuous improvement						*1*	*1*

VII. Student Performance:

Students must maintain a GPA consistent with college and university policies and requirements for graduating with a degree from the College of Engineering and Computer Science. In addition, individual course grades must meet the minimum prerequisite requirements for any follow-on course in the curriculum.

During their academic program, individual student performance is tracked through the normal system of course grades. The Department of Electrical Engineering employs an Academic Advisor that meets with students in good standing on an annual basis to monitor and review their progress through their program of study. The Academic Advisor meets with students on probation before registration each semester.

At the conclusion of each student's program, an exit interview is conducted by the academic advisor to get feedback on their complete academic experience and to collect information on any career plans that they may have. The results of student exit interviews are shared with the Undergraduate Studies Committee for their review. Student names are omitted.

Lastly, the Department of Electrical Engineering maintains an Alumni Council that meets twice per year to advise the department on curricular and strategic matter. We are also developing a process of broader alumni engagement through local events.

VIII. Curriculum Coordination:

This new college program in the Department of Electrical Engineering was reviewed by the Department of Electrical Engineering Undergraduate Studies

Committee, the Electrical Engineering Faculty at a Department Meeting, and the College of Engineering and Computer Science Curriculum Committee regarding coordination issues.

There are no USO institutions within a 30-mile radius that offer the proposed program.

We will seek to establish articulation agreements with community colleges, and some initial discussions to that effect have taken place.

There are no coordination issues at this time.

IX. Resource Coordination:

We do not anticipate needing any new classroom or laboratory facilities to offer this program.

X. Program Staffing:

The proposed Engineering Technology program will be taught by existing faculty within the Departments of Electrical Engineering and Computer Science and Engineering.