

Curriculum Change Form (Present only one proposed curriculum change per form) (Complete only the section(s) applicable.)

Part I

(Check one) <input type="checkbox"/> New Course (Parts II, IV) <input type="checkbox"/> Course Revision (Parts II, IV) <input type="checkbox"/> Hybrid Course ("S," "W") <input type="checkbox"/> Course Dropped (Part II) <input type="checkbox"/> New Program (Part III) <input checked="" type="checkbox"/> Program Revision (Part III) <input type="checkbox"/> Program Suspended (Part III)	Department Name Technology <hr/> College Business & Technology <hr/> *Course Prefix & Number <hr/> *Course Title (30 characters) <hr/> *Program Title Computer Electronic Networking (B.S.) (Major <input checked="" type="checkbox"/> , Option <input type="checkbox"/> ; Minor <input type="checkbox"/> ; or Certificate <input type="checkbox"/>) <hr/> *Provide only the information relevant to the proposal.	
Proposal Approved by:		
	<u>Date</u>	<u>Date</u>
Departmental Committee	5/1/2009	Graduate Council* NA
Is this a SACS Substantive Change? Yes**** <input type="checkbox"/> No <input checked="" type="checkbox"/>		
College Curriculum Committee	10/14/2009	Council on Academic Affairs Approved <input checked="" type="checkbox"/> Disapproved <input type="checkbox"/> FFB JBEJ
General Education Committee*	NA	Faculty Senate**
Teacher Education Committee*	NA	Board of Regents** Council on Postsecondary Edu.***
*If Applicable (Type NA if not applicable.) **Approval needed for new, revised, or suspended programs ***Approval/Posting needed for new degree program or certificate program ****If "yes", SACS must be notified before implementation. Please contact EKU's Office of Institutional Effectiveness.		

Completion of A, B, and C is required: (Please be specific, but concise.)

A. 1. Specific action requested: (Example: To increase the number of credit hours for ABC 100 from 1 to 2.)

1. Change name of major program from "Computer Electronic Networking" to "Network Security & Electronics," and update prefix of program to "NET," and CIP code to 15.1299. The networking and security related major courses will use NET.
2. Expand selection of Computer Science classes to include three hours of higher level courses beyond CSC160, not restricted to CSC 177(Visual Basic) or CSC 190(Intro. to C++).
3. Expand selection of Mathematics courses to include MAT 124 (Calculus I).
4. Expand selection of general education physical science laboratory courses to include 7 hours of PHY 101 (Conceptual Physics) and CHE 101/107 (Chemistry in Everyday Life/Intro. Chemistry lab) or higher courses in standard general education block IVB.
5. Drop QMB 200 (Business Statistical I) from the list of alternate Statistics classes.
6. Reduce requirement of 4 hours of upper-division electives to 2 hours of upper-division electives. Reduce overall free electives from 9 hours to 5-6 hours, and major requirements from 42 to 40 hours.
7. Change prefixes of computer networking and security related classes in the updated Network Security & Electronics major from "EET" to "NET," while retaining the EET prefix for Electricity and Electronics Technology related courses.
8. Make NET 354 (Microcomputer & Network Security, formerly EET 354), a required course in the major. At present EET 354 is an elective in the major. Move EET 351 (Programmable Logic Controllers) and EET 452 (Electrical power & drives) into the block of technical electives.
9. Drop EET 254 (Machine Language for Microcontrollers) from the list of required major classes and add NET 454 (WAN/Wireless Security) as a required major class.

10. Decrease number of hours in program from 128 to 120.

11. Require taking of at least one advisor approved computer networking, security, electronics, or related technology certification or license exam.
12. Change prefix of supporting classes related to Industrial Technology (INT) to Applied Engineering Management (AEM).

A. 2. Effective date: (Example: Fall 2001)
~~08/~~ 2010

A. 3. Effective date of suspended programs for currently enrolled students: (if applicable)
 NA

B. The justification for this action:

1. The increased need regionally and nationally for skilled technology professionals who can manage and secure networks systems has caused the curriculum committee to gradually increase emphasis in the BS program to include security of wired and wireless computer networking systems. Results of an EKU funded grant which permitted graduating students to write an internationally recognized professional networking certification exam revealed the need for additional security coursework in the curriculum. These courses have been offered as special topics courses by the major, and there is a need for integrating security at all levels of the curriculum. The computer electronics programs advisory committee strongly recommends computer and network security be an integral part of the program, and the updated name of the program "Network Security & Electronics," along with the "NET" prefix associated with the computer networking and security classes reflects this. The earlier CIP code 15.0301 is no longer in use. Update the CIP code for the NET program to 15.1299 for Computer Engineering Technologies/Technicians, Other. This code represents the content related to computer network hardware/software, security and electronics technology that will be covered in the revised NET curriculum.
2. Three hours of higher level Computer Science courses, including upper division courses beyond CSC160 (Intro. to programming) will permit students to take appropriate web based programming and database related courses. Also, this provides greater flexibility in course selection.
3. The addition of a Calculus course (MAT 124) will make the Calculus requirements consistent with existing supporting calculus requirements in the major (MAT 211 or MAT 261). As per the undergraduate catalog, students who have credit for MAT 124 are not awarded credit for MAT 211 or MAT 261. This will ease transfer coursework as well.
4. Expanding selection of physical laboratory sciences to include a range of Physics and Chemistry courses based on the recommendation of the departmental curriculum and advisory committees. Existing requirements are 10 hours of PHY131 and PHY 132 (pre-requisite PHY 131). The Association of Technology, Management, and Applied Engineering (ATMAE), formerly National Association of Industrial Technology (NAIT) accreditation guidelines specify 6 or more hours of physical sciences - Physics, Chemistry, etc. Students in the major will benefit by taking physical laboratory science courses including chemistry (CHE 101/107 or higher) for developing an understanding of the physical world. This will reduce supporting course requirements from 46 hours to 43 hours.
5. QMB 200 is rarely used by departmental majors as a pre-requisite for the INT 202 (Quality Control) which is required in the BS program. The curriculum committee recommends General Education Block VII(QS) approved statistics courses STA 215 or STA 270 be used exclusively for this purpose. Overrides into INT 202 will be granted to students with QMB 200 as needed.
6. The overall reduction in free electives from 9 to 5-6 is due to reduction in total credit hours required by the program from 128 to 120. The reduction in 4 hours of upper-division electives to 2 is due to the addition of a proposed upper-division required major class NET454, and reduction of required upper-division hours from 43 to 42, while also reducing 2 hours of upper-division major requirements. ATMAE accreditation standards specify a minimum of 0 credit hours for electives. The accreditation guidelines also specify up to 36 technical (major) hours for a 120 hour degree program. Accordingly the major hours are being reduced from 42 to 40 hours. This includes 4 upper-division hours that can be taken entirely for co-operative education, reducing the technical hour requirement to 36. Opportunities for student to participate in co-operative education, when available, are strongly encouraged by the curriculum and advisory committees.
7. Following discussions in both the computer electronics curriculum committee and the advisory committees, the unanimous recommendation was to change the prefix of the program, and of major courses for emphasizing the future direction of the major. The "NET," prefix change for classes related to computer networking and security reflects this, while retaining the EET prefix for electricity and electronics related major courses.
8. Including NET 354 (Microcomputer & network security, formerly EET 354) as a major requirement has been strongly supported by the computer electronics advisory and curriculum committees. The 2006-07 EKU assessment grant for validating the departmental exit exam based on professional certification exams indicated that student performance in networking concepts and security needed to be strengthened. The automation, control and power related courses EET351 and EET452 will serve as technical electives for the major.
9. The essentials of microcontroller hardware and programming covered in EET254 will be migrated into EET253 (Microprocessor Systems) with the course description revision to reflect these changes. The integration of the microprocessor and microcontroller courses will enable students to learn about real-time control using embedded controllers and mechatronics. NET454 is a new course related to WAN/Wireless security, and will equip students with the knowledge and skills needed for managing and securing enterprise level networking systems. The departmental advisory committee endorses inclusion of content in the computer and networking security area at all levels of the curriculum.
10. The reduction in total number of hours needed for completing the program from 128 to 120 will make this requirement consistent across the technology department, without affecting any of the major, supporting or general education course requirements. Only the number of free electives will be impacted by reducing these to 3-4 credit hours. Updated national accreditation guidelines for technology programs permit 0 credit hours of free electives, and the change exceeds this accreditation requirement, while still permitting students some flexibility in selection of electives. The reduction to 120 credit hours will encourage transfers from the Kentucky Community and Technical College System (KCTCS) in a streamlined 2+2 format.
11. An increased emphasis in the profession on certifications related to field of computer networking, security, and electronics are valued by potential employers. External validation of student proficiency in technical areas and the opportunity for students to advance professionally by continuing education in the form of certifications and licensure will also be achieved.

C. The projected cost (or savings) of this proposal is as follows:

Personnel Impact:

None

Operating Expenses Impact:

None

Equipment/Physical Facility Needs:

None

Library Resources:

None

Part III. Recording Data for New, Revised, or Suspended Program

1. For a new program, provide the catalog description as being proposed.
2. For a revised program, provide the current program requirements using ~~strike through~~ for deletions and underlines for additions.
3. For a suspended program, provide the current program requirements as shown in catalog. List any options and/or minors affected by the program's suspension.

New or Revised* Program Text
 (*Use ~~strike through~~ for deletions and underlines for additions.)

~~Computer Electronic Networking~~ Network Security & Electronics (B.S.)

CIP Code: ~~15.0301.01~~ 15.1299

University Requirement	1 hour
BTO 100	
General Education Requirements	30 hours
Standard General Education program, excluding blocks II, IVB, VB, VII (NS), and VIII (6 hours). Refer to Section Four of this Catalog for details on the General Education and University requirements.	
Supporting courses	46 <u>43-44</u> hours
CSC 160 and <u>3</u> hours of higher CSC courses (CSC 177 or 190); ECO 230, MAT 108 and (<u>124(4) or 211 or 261</u>), AEM INT 202, 310, 406, 408; (<u>PHY 101</u>) and (<u>CHE 101, CHE 107(1) or higher</u>) in general education block IVB PHY 131(5), 132(5); STA 215 or STA 270 or QMB 200 ; TEC 161; and 3 upper division hours of ACC*, <u>AEM*</u> , CCT*, CIS*, FIN*, GBU*, INS*, INT* , MGT*, MKT*, <u>or QMB*</u> , or RST* , electives as approved by major advisor.	
Free Electives	9 <u>5-6</u> hours
(A minimum of 4 <u>2</u> semester hours must be Upper Division Courses including Cooperative Education)	
Major Requirements	42 <u>40</u> hours
EET 251, 252, 253, 254 , 257, NET 302, 303, 343, <u>354</u> 354 , (403 or 452), 440, <u>454</u> , 499, Select 6 <u>4</u> hours from EET NET 349, <u>395</u> , <u>EET 351</u> 354 , <u>452</u> , 395 .	
Total Curriculum Requirements	128 120 hours

The Department of Technology's Computer Electronic Networking degree program has an articulation agreement for transfer of credit and cooperation with Bluegrass Community and Technical College's (formerly Lexington Community College) Associate in Applied Science Degree in Engineering Technology with Electrical Specialization.

*Prerequisite may be required for some course selections.

Students must take at least one computer systems, networking, security, electronics, or telecommunications technology certification or license approved by the advisor.

Students must take a Computer Electronic Networking exit examination before graduation.

Graduates must have an overall GPA of 2.25 in major requirements.

The Computer Electronic Networking program is accredited by the Association of Technology, Management and Applied Engineering (ATMAE) ~~National Association of Industrial Technology (NAIT)~~.