

# CCRI CURRICULUM REVIEW COMMITTEE MEETING

February 7, 2025, 2:00-4:00 PM

Board Room 4090, Knight Campus

Zoom: <https://ccri.zoom.us/j/98453429118?pwd=JiEgoBrjLIHzLPzefCJqwt6KYvW8AJ.1&from=addon>

## AGENDA

1. CALL TO ORDER
2. ROLL CALL
3. APPROVAL OF MINUTES (December 6, 2024 meeting and December 13, 2024 meeting)
4. NON-ACTION/ANNOUNCEMENTS
5. ACTION/VOTING ITEMS

### NON-ACTION/ANNOUNCEMENTS

- Due to scheduling conflicts, the April 4<sup>th</sup> 2025 CRC meeting will be held in KN 6060 rather than KN 4090.
- **RI Council on Postsecondary Education Timeline**  
For new or substantially revised degrees/certificates, you must submit an [OPC Program Proposal\\*](#) to be reviewed by your Dean, the VPAA, and President. The OPC Program Proposal must be completed and submitted to your Dean by the date of the CRC meeting of which the CRC program proposal is reviewed.
  - \*You may find the Council's scheduled meetings [here](#).

### ACTION/VOTING ITEMS

#### **Revised Course Proposal: Computer Repair A+ Hardware**

CNVT 1000, 3 credits

Originator: Kevin Crawford

#### **RATIONALE:**

Putting the Course Objectives into the system

#### **CATALOG DESCRIPTION:**

This course covers the installation, configuration and troubleshooting of hardware components. The material is presented to prepare the student for the A+ Core Hardware examination.

**Revised Course Proposal: Computer Repair A+ Software**

**CNVT 1010, 3 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

This course covers installation, configuration and troubleshooting of software/operating system components. The material is presented to prepare the student for the A+ OS Technologies examination.

**Revised Course Proposal: Networking I**

**CNVT 1810, 3 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

Introduction to Networks covers the architecture, structure, functions and components of the Internet and other computer networks. Students achieve a basic understanding of how networks operate and how to build simple Local Area Networks (LAN), perform basic configurations for routers and switches, and implement Internet Protocol (IP).

**Revised Course Proposal: Networking II**

**CNVT 1820, 3 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

Switching, Routing, and Wireless Essentials (SRWE) covers the architecture, components, and operations of routers and switches in small networks and introduces wireless local area networks (WLAN) and security concepts. Students learn how to configure and troubleshoot routers and switches for advanced functionality using security best practices and resolve common issues with protocols in both IPv4 and IPv6 networks.

**Revised Course Proposal: Networking III**

**CNVT 1830, 3 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

Describes the architecture, components, operations, and security to scale for large, complex networks, including Wide Area Network (WAN) technologies. Emphasizes network security concepts and introduces network virtualization and automation. Students will learn how to configure advanced routing and switching protocols; identify threats and enhance network security; implement IPv4 Access Control Lists (ACLs); configure

Network Address Translation (NAT) services; explain virtualization, software defined networking, and automation.

**Revised Course Proposal: Core Networking**

**CNVT 2030, 5 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

Cisco Certified Network Professional (CCNP) Enterprise: Core Networking (ENCOR) provides students with a broad scope of architectural understanding and implementation skills required by enterprise networks. The course covers switching, routing, wireless, and related security topics along with the technologies that support software-defined, programmable networks. (Spring only)

**Revised Course Proposal: Basic Voice Over Internet Protocol (VoIP)**

**CNVT 2100, 3 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

This course concentrates on the transmission of Voice Over Internet Protocol (VoIP). Focus is on the transmission of voice over high-speed network connections and quality of service issues and solutions associated with this transmission. VoIP technology, signaling standards, network configuration and queuing are addressed. (Fall only)

**Revised Course Proposal: Network Security Hardware**

**CNVT 2200, 4 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

The Security course provides a next step for individuals who want to enhance their networking skill set to help meet the growing demand for network security professionals. Course introduces the core security concepts and skills needed for the installation, troubleshooting, and monitoring of network devices to maintain the integrity, confidentiality, and availability of data and devices.

**Revised Course Proposal: Foundations of Cloud Computing**

**CNVT 2400, 3 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

This course is for individuals who want to develop a fundamental understanding of the Amazon Web Services (AWS) Cloud, independent of any specific technical role. You will learn about AWS Cloud concepts, core AWS services, security, architecture, pricing, and support to build students AWS Cloud knowledge. This course will also help students prepare for the AWS Certified Cloud Practitioner exam.

**Revised Course Proposal: Cloud Architecture & Security****CNVT 2410, 3 credits****Originator: Kevin Crawford****RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

This course covers the fundamentals of building Information Technology (IT) infrastructure. The course is designed to teach architects how to optimize cloud services and how these services fit into cloud-based solutions. Architectural solutions can differ depending on industry, type of applications, and size of business. This course emphasizes best practices and recommends various design patterns to help students think through the process of architecting optimal IT solutions. It also presents case studies throughout the course. Students will build a variety of infrastructures via a guided, hands-on approach.

**Revised Course Proposal: Introduction to Data Analytics****COMI 1300, 3 credits****Originator: Kevin Crawford****RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

This course provides an introduction to the concepts and procedures in Data Analytics. The course introduces students to the underlying skills required in the collection, manipulation, and analysis of data needed to begin the process of reporting and creating visualizations used in Data Analytics. An overview of data collection, cleansing, and manipulation of data for analysis and reporting are introduced and reviewed. Emphasis is placed on the tools used for statistical analysis and visualization such as: Excel, PowerBI, and Tableau.

**Revised Course Proposal: Data Analytics Programming****COMI 1350, 3 credits****Originator: Kevin Crawford****RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

This course provides students with the fundamental skills required to effectively manipulate and visualize data. The course covers the topics of structuring data, descriptive statistics, machine learning algorithms, and visualization methods used in Data Analytics. Emphasis is placed on using a statistical programming language. (Spring only)

**Revised Course Proposal: Web Development 1**

**COMI 1750, 3 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Updating the Course Objectives

**CATALOG DESCRIPTION:**

This course provides an in-depth introduction to Hypertext Markup Language version 5 (HTML 5) and Cascading Style Sheets version 3 (CSS 3) emphasizing conformance to W3C (World Wide Web Consortium) specifications. Students begin by creating simple web pages and progress to include images, hyperlinks, tables, web forms, animations, and transitions. A portfolio website will be created, including examples of attempts at cloning existing websites.

**Revised Course Proposal: Web Development II**

**COMI 1770, 3 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Updating the Course Objectives

**CATALOG DESCRIPTION:**

This course provides an in-depth introduction to a variety of technologies used in modern web development. Building on a base of Hypertext Markup Language version 5 (HTML 5) and Cascading Style Sheets version 3 (CSS 3), students will explore JavaScript, JQuery and related technologies for building dynamic web sites. Students will also be introduced to server-side scripting and best practices for web hosting. (Spring only)

**Revised Course Proposal: Introduction to Computer Forensics**

**COMI 2035, 3 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

This course starts with the basics of computer technology to build a foundation for understanding where evidence can be found. It introduces students to the technology and procedures of acquiring and analyzing digital evidence taken from computers. This course also exposes students to the software being used in the industry.

**Revised Course Proposal: Introduction to Computer Ethics**

**COMI 2036, 3 credits**

**Originator: Kevin Crawford**

**RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

This course explores the ethical impact of computer technology on the world, as well as the rules and regulations that ensure the proper use of technology. Internet crime, privacy protection and first amendment rights that protect our freedoms in cyberspace are closely examined.

**Revised Course Proposal: Data Structures and Algorithms****COMI 2520, 3 credits****Originator: Kevin Crawford****RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

This course introduces the student to data structures, algorithm design, and space and time complexity analysis. Topics include common data structures such as linked lists, stacks, queues, binary trees, searching and sorting algorithms, maps, and hash tables, and techniques of run-time complexity analysis such as Big O notation.

**Revised Course Proposal: Data Analytics Internship****COMI 2900, 3 credits****Originator: Kevin Crawford****RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

The opportunity to implement the skills and knowledge learned in the classroom through “hands on” experience in a business setting is a critical aspect of gaining a thorough understand of how Data Analytics is utilized. To complete the course, the student is required to spend an average of 10 hours per week of field work under the guidance of industry professionals. This work experience will constitute the practicum and capstone for the program. The student will be required to produce a portfolio relating to the work experience and how it is connected to the content of this program. Students will keep a working journal during the semester to help assess the progress of their experience. (Spring only)

**Revised Course Proposal: Operating Systems****COMP 2430, 4 credits****Originator: Kevin Crawford****RATIONALE:**

Putting the Course Objectives into the system

**CATALOG DESCRIPTION:**

This course covers the structure and components of operating systems. Topics include controlling system resources, interface concepts, multiprogramming, networks and command language techniques of current operating systems. Laboratory assignments provide application of these principles. (Fall only)

## **New Program Proposal: Pathway to Cyber Readiness Certificate**

**CERT\_CSIP, 21 credits**

**Originator: Kevin Crawford**

### **RATIONALE:**

This certificate was asked for by Bally's and also to fulfill a grant proposal. The department used the CompTIA cyber pathways to help design the certificate. Other community colleges are using similar certificate programs.

### **CATALOG DESCRIPTION:**

The Pathway to Cyber Readiness Certificate is a 21-credit program that prepares students with the fundamental skills needed to obtain the CompTIA A+, N+, Linux+, and S+ certifications. This certificate is applicable to train new and upskill incumbent industry professionals and prepare students for the cybersecurity associate degree.

## **Revised Course Proposal: Introduction to DC & AC Electrical Circuits**

**AEES 1010, 3 credits**

**Originator: D. Matthew Rieger**

### **RATIONALE:**

This course is being renamed as part of curriculum revisions to the current ETST - Engineering Systems Technology AS program. The two remaining tracks of the ETST program; ETEE - Electrical and ETME - Mechanical, are being merged into one program, which is being renamed AEES - Applied Engineering and Energy Systems.

This course is being given a new course code, AEES, and new course number, 1010. Also, the catalog description and SLOs are being updated.

### **CATALOG DESCRIPTION:**

The course introduces students to the basic principles of DC and AC circuits. Topics include resistance, voltage, current, Ohm's Law, Kirchoff's Laws, power, introduction to AC, capacitors and inductors. Students will also be introduced to some electromechanical components such as relays, solenoids and switches. In addition to circuit analysis, hands-on laboratory work and computer simulations are utilized to enhance the student's understanding.

## **Revised Course Proposal: Introduction to Electromechanical Systems I**

**AEES 1020, 3 credits**

**Originator: D. Matthew Rieger**

### **RATIONALE:**

This course is being renamed as part of curriculum revisions to the current ETST - Engineering Systems Technology AS program. The two remaining tracks of the ETST program; ETEE - Electrical and ETME - Mechanical, are being merged into one program, which is being renamed AEES - Applied Engineering and Energy Systems.

This course is being given a new course code, AEES, and new course number, 1020. Also, the catalog description and SLOs are being updated.

**CATALOG DESCRIPTION:**

This course covers maximum power transfer, the Wheatstone bridge, Thevenin's network analysis, RC and RL transient analysis, RC, RL and RLC AC analysis, passive filters, frequency response, single and 3 phase power, single and 3 phase transformers, fuses, circuit breakers, relays and contactors.

**Revised Course Proposal: Introduction to Digital Systems****AEES 1030, 3 credits****Originator: D. Matthew Rieger****RATIONALE:**

This course is being renamed as part of curriculum revisions to the current ETST - Engineering Systems Technology AS program. The two remaining tracks of the ETST program; ETEE - Electrical and ETME - Mechanical, are being merged into one program, which is being renamed AEES - Applied Engineering and Energy Systems.

This course is being given a new course code, AEES, and new course number, 1030. Also, the catalog description and SLOs are being updated.

**CATALOG DESCRIPTION:**

This course provides the student with a basic understanding of digital systems through the use of programmable logic controllers. The student will explore fundamental properties of digital logic controllers, digital control components and systems. Students also will analyze and develop basic control systems solutions, using logic controller simulation software to configure and test systems.

**Revised Course Proposal: Electronic Devices & Circuits****AEES 1040, 3 credits****Originator: D. Matthew Rieger****RATIONALE:**

This course is being renamed as part of curriculum revisions to the current ETST - Engineering Systems Technology AS program. The two remaining tracks of the ETST program; ETEE - Electrical and ETME - Mechanical, are being merged into one program, which is being renamed AEES - Applied Engineering and Energy Systems.

This course is being given a new course code, AEES, and new course number, 1040. Also, the catalog description and SLOs are being updated.

**CATALOG DESCRIPTION:**

This course is a study of the basic laws of electronic circuit theory applied to electronic devices with emphasis on solid state devices, including the theory and operation of semi-conductor diodes and transistors. Operational amplifiers, oscillators, active filters and switching circuits are emphasized and analyzed in laboratory experiments. Analysis techniques include the use of Bode plots and computerized experiments using circuit simulation software in addition to bench work wiring up circuits that are analyzed and then tested.

**Revised Course Proposal: Introduction to Energy Generation & Management****AEES 1050, 4 credits****Originator: D. Matthew Rieger**



**RATIONALE:**

This course is being renamed as part of curriculum revisions to the current ETST - Engineering Systems Technology AS program. The two remaining tracks of the ETST program; ETEE - Electrical and ETME - Mechanical, are being merged into one program, which is being renamed AEES - Applied Engineering and Energy Systems.

This course is being given a new course code, AEES, and new course number, 1050. Also, the catalog description and SLOs are being updated.

**CATALOG DESCRIPTION:**

This course will introduce energy generation and management to the student. Topics covered will include the physics and energy generation and use, the collection and analysis of energy use data, identification and analysis of energy efficiency measures, and the production of an energy assessment report.

**Revised Course Proposal: Robotics and Control****AEES 1060, 3 credits****Originator: D. Matthew Rieger****RATIONALE:**

This course is being renamed as part of curriculum revisions to the current ETST - Engineering Systems Technology AS program. The two remaining tracks of the ETST program; ETEE - Electrical and ETME - Mechanical, are being merged into one program, which is being renamed AEES - Applied Engineering and Energy Systems.

This course is being given a new course code, AEES, and new course number, 1060. Also, the catalog description and SLOs are being updated.

**CATALOG DESCRIPTION:**

This course provides an introduction to the field of robotics and automation. Topics include the different robot classification systems and robot arm configurations, robot end effectors, robot operating systems and kinematics. This course also introduces basic concepts of automation and artificial intelligence. Various concepts of control are introduced such as programmable logic controllers. Equipment justification is also introduced. Students will program and operate two types of robots using the robots' programming languages.

**Revised Course Proposal: Mechanical Systems****AEES 1070, 3 credits****Originator: D. Matthew Rieger****RATIONALE:**

This course is being renamed as part of curriculum revisions to the current ETST - Engineering Systems Technology AS program. The two remaining tracks of the ETST program; ETEE - Electrical and ETME - Mechanical, are being merged into one program, which is being renamed AEES - Applied Engineering and Energy Systems.

This course is being given a new course code, AEES, and new course number, 1070. Also, the catalog description and SLOs are being updated.

**CATALOG DESCRIPTION:**

This course is designed to familiarize the student with components used in mechanical systems. The student will learn how to select components based on system requirements and how to implement the component into

the system. Attention is given to currently manufactured components and the use of the manufacturer's sizing and mounting procedures. More specifically, the sizing and fitting of these elements based on function, power requirements, life and cost.

**Revised Course Proposal: OSHA General Industry Safety**

**AEES 1080, 1 credit**

**Originator: D. Matthew Rieger**

**RATIONALE:**

This course is being renamed as part of curriculum revisions to the current ETST - Engineering Systems Technology AS program. The two remaining tracks of the ETST program; ETEE - Electrical and ETME - Mechanical, are being merged into one program, which is being renamed AEES - Applied Engineering and Energy Systems.

This course is being given a new course code, AEES, and a new course number, 1080.

Additionally, this course is being reduced to one credit and will cover only the content in the OSHA 10 - General Industry Safety certificate.

**CATALOG DESCRIPTION:**

This course provides essential training for individuals working in general industry roles, focusing on foundational safety and health principles as required by the Occupational Safety and Health Administration (OSHA). Students will gain knowledge of OSHA standards and regulations, as well as practical safety practices in various workplace scenarios.

The course utilizes OSHA certified curriculum. Upon successful completion, students will earn the OSHA 10-Hour General Industry certification, equipping them with valuable safety skills to enhance workplace safety and compliance.

**Revised Course Proposal: Introduction to Electromechanical Systems II**

**AEES 2000, 3 credits**

**Originator: D. Matthew Rieger**

**RATIONALE:**

This course is being renamed as part of curriculum revisions to the current ETST - Engineering Systems Technology AS program. The two remaining tracks of the ETST program; ETEE - Electrical and ETME - Mechanical, are being merged into one program, which is being renamed AEES - Applied Engineering and Energy Systems.

This course is being given a new course code, AEES, and new course number, 2000. Also, the catalog description and SLOs are being updated.

**CATALOG DESCRIPTION:**

Power generation, transmission and distribution is presented. DC series, shunt, and compound motors are covered. AC single-phase and three-phase generators, synchronous and induction motors, motor protection and electronic controls are analyzed. Students complete extensive labs involving single and three-phase power and motors.

**Revised Course Proposal: Applied Engineering Mechanics**

**AEES 2010, 3 credits**

**Originator: D. Matthew Rieger**

**RATIONALE:**

This course is being renamed as part of curriculum revisions to the current ETST - Engineering Systems Technology AS program. The two remaining tracks of the ETST program; ETEE - Electrical and ETME - Mechanical, are being merged into one program, which is being renamed AEES - Applied Engineering and Energy Systems.

This course is being given a new course code, AEES, and new course number, 2010. Also, the catalog description and SLOs are being updated.

**CATALOG DESCRIPTION:**

Students are introduced to basic concepts in engineering mechanics: statics, dynamics, and the strength of materials, with a focus on technical application of the fundamentals to mechanical design. Newton's Laws are studied with emphasis on equilibrium and motion. Realistic problems are analyzed through the use of vector mechanics. Kinematic and kinetics are investigated to a level sufficient enough for students to follow and develop basic analysis of mechanisms and machines. Stress levels and strain are covered allowing for determination of acceptable analysis and design of mechanical systems.

**Revised Course Proposal: Automation Systems**

**AEES 2020, 3 credits**

**Originator: D. Matthew Rieger**

**RATIONALE:**

This course is being renamed as part of curriculum revisions to the current ETST - Engineering Systems Technology AS program. The two remaining tracks of the ETST program; ETEE - Electrical and ETME - Mechanical, are being merged into one program, which is being renamed AEES - Applied Engineering and Energy Systems.

This course is being given a new course code, AEES, and new course number, 2020. Also, the catalog description and SLOs are being updated.

**CATALOG DESCRIPTION:**

This course addresses fundamental issues of automation. Topics covered include the types of automation, designing for automation, automatic assembly transfer systems, automatic feeding and orienting, and automated material handling systems. Quality and cost analysis as they relate to automation, the design and analysis of lean systems, as well as advanced topics in robotics such as vision systems technology are also discussed.

**New Course Proposal: HVAC Systems**

**AEES 2030, 3 credits**

**Originators: Melissa Lancellotta  
D. Matthew Rieger**

**RATIONALE:**

Course is required for Applied Engineering and Energy Systems (AEES) program.

**CATALOG DESCRIPTION:**

This course introduces the physical principles involved in the refrigeration cycle. Students will learn the functions of each component involved in the refrigeration cycle, including compressors, condensers, metering devices, and evaporators. Heating, air-conditioning, and ventilation technologies are also presented.

**New Course Proposal: Capstone Energy Audit****AEES 2500, 3 credits****Originators: Melissa Lancellotta****D. Matthew Rieger****RATIONALE:**

Course is required for Applied Engineering and Energy Systems (AEES) program.

**CATALOG DESCRIPTION:**

This capstone course allows students to apply the knowledge and skills acquired while earning their Associate of Science in Applied Engineering and Energy Systems (AEES). As part of the final capstone project, students perform a comprehensive building energy audit. This project requires students to take measurements using survey instrumentation, develop energy conservation measures, and create a final comprehensive, written report highlighting the results of the energy audit.

**Revised Course Proposal: Introduction to Engineering & Technology****ENGR 1020, 3 credits****Originator: D. Matthew Rieger****RATIONALE:**

The Student Learning Outcomes of this course are being updated. Also, the course is being updated as meeting the WBL requirement.

**CATALOG DESCRIPTION:**

This course introduces students to various tools and problem solving skills common to most fields of engineering and technology. The course will emphasize developing both individual critical thinking, and collaborative problem solving skills, essential in today's world of technology. Students will learn the basics of the engineering design process of product design, testing and evaluation. As teams, students will apply this process to complete a semester-long project that will involve practical problem solving, computer simulation and physical product fabrication. To assist in the project analysis, documentation and presentation, students will develop skills with spreadsheets, word processing and presentation software.

**Revised Course Proposal: Scientific Programming****ENGR 1220, 3 credits****Originator: D. Matthew Rieger****RATIONALE:**

The only revision being made to this course is a change to its course code and number, as it is being migrated from the Math department into the Physics and Engineering Department. The only program at the College that requires this course is the engineering transfer program in the Dept. of Physics and Engineering. Moving this course makes sense, as now the Physics and Engineering Department will be responsible for scheduling, staffing, and assessing it. Full-time and part-time faculty in the Physics and Engineering Department have the experience and knowledge to offer the course. In fact, faculty from the Physics and Engineering Department have taught this course.

**CATALOG DESCRIPTION:**

This course offers instruction in scientific programming using a current programming language. Problems, both numerical and non-numerical, are programmed and solved by use of a mainframe and/or personal computers.

**Revised Course Proposal: Engineering Mechanics Statics****ENGR 2050, 3 credits****Originator: D. Matthew Rieger****RATIONALE:**

The student learning outcomes of this course are being updated.

**CATALOG DESCRIPTION:**

This is a basic course built around solutions and applications of Newton's laws of forces in equilibrium. Systems of particles and rigid bodies are studied using standard scalar and vector methods.

**Revised Course Proposal: Engineering Mechanics Dynamics****ENGR 2060, 3 credits****Originator: D. Matthew Rieger****RATIONALE:**

The SLOs are being updated for this course.

**CATALOG DESCRIPTION:**

This course covers the application of Newton's law of motion, to include kinematic and kinetic studies of the motion of systems of particles and rigid bodies, acted upon by unbalanced forces.

**Revised Course Proposal: Introduction to Engineering Analysis****ENGR 2160, 2 credits****Originator: D. Matthew Rieger****RATIONALE:**

The SLOs are being updated for this course.

**CATALOG DESCRIPTION:**

This course introduces students to analytical methods employed in engineering problem solving using computer software.

**Revised Course Proposal: Digital Electronics****ENGR 2320, 4 credits****Originator: D. Matthew Rieger****RATIONALE:**

The SLOs are being updated for this course.

**CATALOG DESCRIPTION:**

This course studies logical building blocks and functional building blocks such as OR gates, AND gates, invertors, XOR gates, registers, counters, adders, D/A converters, A/D converters, decoders, encoders and binary multiplexers. Number systems and codes, arithmetic processes and memory devices are also covered. Input, output, memory, control and arithmetic functional units are developed using functional building-blocks. Note: Engineering students should consult department chair or academic advisor before enrolling.

**Revised Course Proposal: Microprocessor & Microcomputers**

**ENGR 2520, 4 credits**

**Originator: D. Matthew Rieger**

**RATIONALE:**

The SLOs are being updated for this course.

**CATALOG DESCRIPTION:**

This hands-on course familiarizes students with computer and microprocessor software and hardware. Computer architecture and interfacing with input and output devices is studied. Students develop an understanding of how the computer is used to control electronic and mechanical devices.

**Revised Course Proposal: Mechanics of Materials for Engineering**

**ENGR 2540, 3 credits**

**Originator: D. Matthew Rieger**

**RATIONALE:**

The SLOs are being updated for this course.

**CATALOG DESCRIPTION:**

The study of the mechanics of materials is based on the understanding of the conditions of equilibrium of the forces exerted on a structural members, the relations existing between stress and strain in the material, and the conditions imposed by the supports and loading of the members. This course explores the theory of stresses and strains in beams, columns, and thin-walled cylinders including combined bending and direct stresses. The free-body diagrams are used to determine external or internal forces. It includes the analysis of the stresses and corresponding deformations in structural members, considering axial loading, torsion, and pure bending. It provides the engineering student the ability to understand the analysis and design of actual engineering structure and machine components.

**Revised Course Proposal: Linear Electrical Systems and Circuit Theory for Engineers**

**ENGR 2620, 3 credits**

**Originator: D. Matthew Rieger**

**RATIONALE:**

The SLOs are being updated for this course.

**CATALOG DESCRIPTION:**

This course offers a study of electrical linear circuit theorems, Kirchhoff's Laws, DC resistive networks, dependent sources, natural and forced response of first and second order circuits, sinusoidal steady-state response and AC power.

**Revised Program Proposal: Applied Engineering and Energy Systems**

**AS\_AEES, 68 credits**

**Originator: D. Matthew Rieger**

**RATIONALE:**

This program revision of the Engineering Systems Technology (ETST) Associate Degree program is in effort to accomplish the following goals:

1. Merge the two remaining tracks (electrical and mechanical) of the ETST into one track.

2. Rename the program to Applied Engineering and Energy Systems (AEES)
3. Revise selected existing courses to incorporate energy management curriculum.
4. Develop and introduce two new courses: AEES 2030: HVAC Systems and AEES 2500: Capstone Energy Audit.

This program revision is in response to insufficient enrollment to support two separate tracks and in effort to update existing and incorporate new curriculum as outlined in CCRI's Industrial Training and Assessment Center grant through the US Dept. of Energy.

**CATALOG DESCRIPTION:**

The Applied Engineering and Energy Systems (AEES) Associate of Science degree equips students with the technical knowledge and hands-on skills required to thrive in a variety of engineering technology, and energy-related careers. This interdisciplinary program integrates electrical and mechanical engineering principles with energy management strategies to address current challenges in electromechanical systems, automation, and energy efficiency. Students gain a strong foundation in topics such as DC/AC circuits, electromechanical systems, digital systems, programmable logic controllers (PLCs), and energy auditing and management strategies, preparing them for roles in industry.

This is a terminal associate degree program designed to prepare students to become engineering and energy technicians. It is not intended for transfer to a four-year engineering bachelor's degree program.

**Revised Course Proposal: Introduction to Teaching and Learning  
HMNS 1101, 3 credits  
Originator: Walter Orellana**

**RATIONALE:**

The course is changing from two to three credits due to the amount of material covered and course requirements. In this course, students are introduced to Rhode Island College's education programs and transfer pathways.

**CATALOG DESCRIPTION:**

Students construct a map for their journey of developing a professional educator identity. Students explore essential questions of social justice education through academic and field experiences. Topics include Key Concepts of Social Justice Education, Racism, Classism, Religious Oppression, Sexism, Ableism, Adulthood and Advocacy.