**Proposal on Engineering Science Program Change**

**Date of Proposal:** Nov 14, 2018

**Proposed by / Contact Person:** Dr. Lin Lin, Professor, Program Coordinator

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**Program:** Associate in Science Degree in Engineering Science

**Academic Division:** Allied Health, Business & STEM

**Description of Proposed Changes**

1. Replace ART\*101/102 with any ART\*, DGA\*, or MUS\* course
2. Replace HIS\*101/102 with any HIS\* course
3. Replace ENG\*102 with ENG\*102 or ENG\*110
4. Replace CSC\*105 with CSC\*105 or EGR\*250 (new course)
5. Required CHE\*122 or EGR\*214, EGR\*212, and EGR\*221 are replace by: choose 3 (10 – 12 credits) from the following: EGR\*214, CHE\*122, BIO\*121, EGR\*212, MAT\*272, MAT\*210. Recommendation for students interested in:
* Mechanical/Civil/General Engineering (10 credits)
	+ EGR\*212, EGR\*214, EGR\*221
* Electrical/Computer Science/Computer Engineering (10 credits)
	+ MAT\*272, MAT\*210, EGR\*221
* Biomedical/Biomaterials Engineering (12 credits)
	+ BIO\*121, CHE\*122, EGR\*221
* Chemical/Environmental Engineering (11 credits)
	+ CHE\*122, EGR\*214, BIO\*121

**Justification for Proposed Changes**

Engineering Science Program is a College of Technology (COT) Pathway program that allows students transfer to one of the four-year institutions that are part of the COT. The majority of our graduates transfer to the Engineering Schools of CCSU and UConn. The COT created the system-wide program template and each CC has some flexibility in fitting their courses into the template. The justification for the proposed changes are as below.

1. Expand ART\*, HIS\*, ENG\* selections so our curriculum is more aligned with the updated College of Technology Engineering Science curriculum. ***These are adopted changes and should not be counted towards total modified credits in terms of justifying the need for BOR approval.***
2. EGR\*250 Computational Methods for Engineering is developed and added to the curriculum to align with CCSU’s ENGR 240 Computational Methods for Engineering.
3. Resulting from last Engineering program advisory board meeting, electives are added and recommendations are made for students interested in various engineering majors.

**Requested Effective Date:**

Fall 2019

***Current vs. Proposed Side-by-Side***

|  |  |
| --- | --- |
| Engineering Science **(Current)****First Semester**ENG\*101 Composition 3HIS\*101 Western Civilization I or HIS\*102 Western Civilization II 3 EGR\*111 Introduction to Engineering 3CHE\*121 General Chemistry I 4MAT\*254 Calculus I 4 **17****Second Semester**ENG\*102 Literature and Composition 3MAT\*256 Calculus II 4EGR\*221 Introduction to Electric Circuit Analysis 4Social Science Elective or  CHE\*122 General Chemistry II 3(4)PHL\*111 Ethics 3  **17(18)****Third Semester**ART\*101 Art History I or ART\*102 Art History II 3 PHY\*221 Calculus-Based Physics I 4MAT\*268 Calculus III: Multivariable 4EGR\*211 Applied Mechanics I (Statics) 3EGR\*214 Engineering Thermodynamics or  Social Science Elective 3(4) **17(18)****Fourth Semester**PHY\*222 Calculus-Based Physics II 4CSC\*105 Programming Logic 3MAT\*285 Differential Equations 3EGR\*212 Applied Mechanics II (Dynamics) 3 **13****Total Credits: 64 (65)** | Engineering Science **(Proposed)****First Semester**ENG\*101 Composition 3HIS\* Elective 3 EGR\*111 Introduction to Engineering 3CHE\*121 General Chemistry I 4MAT\*254 Calculus I 4 **17****Second Semester**ENG\*102 Literature and Composition or  ENG\*110 English Literature 3Social Science Elective 3ART\* Elective 3 MAT\*256 Calculus II 4CSC\*105 Programming Logic or  EGR\*250 Comp Methods for Engineering 3  **16****Third Semester**PHL\*111 Ethics 3PHY\*221 Calculus-Based Physics I 4MAT\*268 Calculus III: Multivariable 4EGR\*211 Applied Mechanics I (Statics) 3Program Elective1 3(4) **17(18)****Fourth Semester**PHY\*222 Calculus-Based Physics II 4MAT\*285 Differential Equations 3Program Elective1 3(4)Program Elective1 3(4) **13(15)****Total Credits: 63 (66)** |

## *1 Choose one course from the following: EGR\*214, CHE\*122, BIO\*121, EGR\*212, MAT\*272, MAT\*210*

## *Recommendation for students interested in:*

## *Mechanical/Civil/General Engineering: EGR\*212, EGR\*214, EGR\*221*

## *Electrical/Computer Science/Computer Engineering: MAT\*272, MAT\*210, EGR\*221*

## *Biomedical/Biomaterials Engineering: BIO\*121, CHE\*122, EGR\*221*

## *Chemical/Environmental Engineering: CHE\*122, EGR\*214, BIO\*121*