

**Central Connecticut State University**  
UNIVERSITY SENATE ACTION

**Senate Motion Number FS 18.19.018B**

TO: President Zulma Toro  
FROM: President of the University Senate

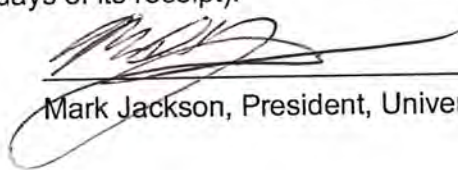
1. The attached motion of the University Senate, dealing with: **Curriculum Committee Report, March 2019** is presented to you for your consideration.
2. This motion was adopted by the University Senate on **03/25/2019**.
3. After considering this motion, please indicate your action on this form, and return it together with the original copy to the President of the University Senate.
4. Under the By-Laws of the University Senate, Section 3.7, the following schedule of action is to be observed.

a) By **06/10/2019**, Senate action reported to the President of the University. (Within five school days of the session in which they are adopted).

b) By **06/24/2019**, the President of the University to return the motion to the President of the Senate. (Within ten school days of its receipt).

**06/10/2019**

Date

  
\_\_\_\_\_  
Mark Jackson, President, University Senate

ENDORSEMENT:

TO: President of the University Senate  
FROM: President Zulma Toro

1. Motion Approved: *\*+ Please see my notes on the third page \*+*
2. Motion Disapproved: \_\_\_\_\_ (Explanatory statement must be appended).
3. Action "is deferred": \_\_\_\_\_
4. Resolution Noted: \_\_\_\_\_
5. Other: \_\_\_\_\_

*6/17/2019*  
Date

  
\_\_\_\_\_  
President Zulma Toro

**TO: Faculty Senate**  
**FROM: Beth Merenstein, Chair, University Curriculum Committee**  
**SUBJECT: Curriculum Committee Report**  
**DATE: 3/21/19**

The following items were approved at the University Curriculum Committee meeting of March 20<sup>th</sup>, 2019

1) Announcements

No new announcements

2) **Minor Changes**

A) PE program:

PE 220 - remove from the catalog (This was done last year but it stills remains in the catalog)  
 PE 273 - change from Fall only to Fall and Spring

B) ATR 502 is Clinical II: Rehabilitation and ATR 503 is Clinical III: Orthopedics. These need to be reversed = ATR 502 --> Clinical II: Orthopedics and ATR 503 --> Clinical III: Rehabilitation

C) FYE 301 Peer Leadership Seminar, a 2-credit course. Add pre-req language: **“Permission of instructor”**.

3) Consent Agenda:

a. Please note the following items can also be viewed under the system dashboard and the Full Curriculum Committee Workflow State here: [Curriculum Dashboard](#)

Item	Type	Name
3.1	New Course	<a href="#">Additional Proposals 100 First Year Inquiry: College Success - 3 credits</a>
3.2	New Course	<a href="#">CET 101 Electric Circuits I - 3 credits</a>
3.3	New Course	<a href="#">CET 201 Electric Circuits II - 3 credits</a>
3.4	New Course	<a href="#">CET 212 Fundamentals of Logic Design - 3 credits</a>
3.5	New Course	<a href="#">CET 301 Signals and Systems - 3 credits</a>
3.6	New Course	<a href="#">CET 312 Computer Systems - 3 credits</a>
3.7	New Course	<a href="#">CET 313 Electric Energy Engineering I - 3 credits</a>
3.8	New Course	<a href="#">CET 323 Electric Energy Engineering II - 3 credits</a>
3.9	New Course	<a href="#">CET 324 Control Systems I - 3 credits</a>

3.10	New Course	<a href="#">CET 330 Electromagnetics - 3 credits</a>
3.11	New Course	<a href="#">CET 331 Introduction to Semiconductors - 3 credits</a>
3.12	New Course	<a href="#">CET 333 Electric Machines and Motors I - 3 credits</a>
3.13	New Course	<a href="#">CET 343 Electric Machines and Motors II - 3 credits</a>
3.14	New Course	<a href="#">CET 351 Analog Circuit Design - 3 credits</a>
3.15	New Course	<a href="#">CET 352 Signal Processing and Pattern Analysis - 3 credits</a>
3.16	New Course	<a href="#">CET 353 Energy Storage Systems - 3 credits</a>
3.17	New Course	<a href="#">CET 363 Renewable Energy - 3 credits</a>
3.18	New Course	<a href="#">CET 401 Random Signals and Systems - 3 credits</a>
3.19	New Course	<a href="#">CET 424 Control Systems II - 3 credits</a>
3.20	New Course	<a href="#">CET 430 RF Communications - 3 credits</a>
3.21	New Course	<a href="#">CET 497 Capstone I - 2 credits</a>
3.22	New Course	<a href="#">CET 498 Capstone II - 2 credits</a>
3.23	Change Course	<a href="#">CHEM 161 General Chemistry - 3 credits</a>
3.24	Change Program	<a href="#">Earth Science B.S.: Environmental Earth Science Specialization B.S.</a>
3.25	Change Program	<a href="#">Earth Science B.S.: Environmental Geology Specialization</a>
3.26	Change Program	<a href="#">Earth Science B.S.: General Earth Science Specialization</a> +
3.27	Change Program	<a href="#">Earth Science B.S.: Geology Specialization</a>
3.28	Change Program	<a href="#">Earth Science B.S.: Planetary Geology Specialization</a>
3.29	New Program	<a href="#">Electrical Engineering, B.S.</a> *
3.30	Change Course	<a href="#">ENGR 150 Introduction to Engineering - 3 credits</a>
3.31	New Course	<a href="#">GSCI 260 Communicating the Geological Sciences - 1 credits</a>
3.32	Change Course	<a href="#">GSCI 360 Research Methods in the Geological Sciences - 1 credits</a>
3.33	New Course	<a href="#">TM 202 Topics in International Studies - 3 credits</a>
3.34	Change Course	<a href="#">VTE 113 Introduction to Teaching Vocational-Technical Education - 4 credits</a>

#### 4. TAP Programs:

~~..\Geography Pathway Documents 2018-Revised by CCSU Geography 2-14-2019.pdf~~

~~X~~ postponed

Respectfully submitted,  
Beth F. Merenstein,  
Chair Curriculum Committee

\* The number of faculty lines required will be determined as part of IPC approval of the proposal.

+ Clarification of this specialization would be helpful.

Select Version to Compare 1. Electrical Engineering, B.S. 01/28/2019 03:45:00 PM ET - I ⚡

Select Current Proposed Version 19. Electrical Engineering, B.S. 03/21/2019 08:52:57 AM ET · ⚡

## Compare Key

New Section ABC New/Modified Text

Deleted Section ABC Deleted Text

Program Name Electrical Engineering, B.S.

## Program Description

The ~~mission for the Electrical Engineers program is to provide students with a broad and thorough education~~ Bachelor of Science in Electrical Engineering ~~fundamentals, applications~~ degree (BSEE) will recruit students from within the State of Connecticut, and ~~design~~ the geographical region. The affordability and accessibility of CCSU will allow a diverse population to gain greater earning potential that ~~prepares them for~~ will in turn promote economic growth.

The core requirements of the proposed BS in Electrical Engineering are standard in the School of Engineering, Science, and Technology. The Electrical Engineering program will build upon two other engineering programs within the School of Engineering, Science, and Technology: Bachelor of Science in Mechanical Engineering and a Bachelor of Science in Civil Engineering.

The educational goals of any engineering field include the awareness of societal impacts and individual responsibility. The decisions made during the practice of electrical engineers at engineering can have far-reaching effects on the professional level with the confidence safety, health, and skills necessary to meet the technical and social challenges welfare of the future population served and its environment. The Given the emphasis on ethical conduct and responsibility to the larger community, the proposed program provides will advance and extend the graduate's contribution to civic life in Connecticut's communities.

The BSEE Program will seek accreditation by the Engineering Accreditation Commission of Accreditation Board for Engineering and Technology (EAC of ABET).

Graduates of the Electrical Engineering Program:

1. are technically proficient in the theory and practice of electrical engineering.

2. are effective communicators.

3. collaborate as members of multidisciplinary teams

- 3. collaborate as members of multidisciplinary teams.
- 4. understand and demonstrate the need to continue learning throughout their professional careers.
- 5. understand the responsibility an engineer bears to society and are characterized by high standards of ethics and professionalism.

The B.S. in Electrical Engineering Program has the following Learning Outcomes:

- 1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- 2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- 3. an ability to communicate effectively with a broad range of audiences
- 4. an ability to recognize ethical and thorough education professional responsibilities in mathematics, physics, chemistry engineering situations and engineering issues coupled with application make informed judgments, which must consider the impact of modern engineering solutions in global, economic, environmental, and societal contexts
- 5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- 6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering tools judgment to draw conclusions
- 7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Degree Requirements

Degree Requirements Title Major Requirements (61 credits)

Course L

Requirement Type Required Courses

Course List

Course List Computer Electronics Technology 101 - Electric Circuits I - 3 credits

Course List Computer Electronics Technology 201 - Electric Circuits II - 3 credits

Course List

Computer Electronics Technology 212 - Fundamentals of Logic Design - 3 credits

Course List                      Computer Electronics Technology 301 - Signals and Systems - 3 credits

Course List                      Computer Electronics Technology 312 - Computer Systems - 3 credits

Course List

Computer Electronics Technology 313 - Electric Energy Engineering I - 3 credits

Course List

Computer Electronics Technology 323 - Electric Energy Engineering II - 3 credits

Course List                      Computer Electronics Technology 324 - Control Systems I - 3 credits

Course List                      Computer Electronics Technology 330 - Electromagnetics - 3 credits

Course List

Computer Electronics Technology 333 - Electric Machines and Motors I - 3 credits

Course List

Computer Electronics Technology 343 - Electric Machines and Motors II - 3 credits

Course List                      Computer Electronics Technology 351 - Analog Circuit Design - 3 credits

Course List

Computer Electronics Technology 352 - Signal Processing and Pattern Analysis - 3 credits

Course List                      Computer Electronics Technology 353 - Energy Storage Systems - 3 credits

Course List                      Computer Electronics Technology 363 - Renewable Energy - 3 credits

Course List

Computer Electronics Technology 401 - Random Signals and Systems - 3 credits

Course List                      Computer Electronics Technology 424 - Control Systems II - 3 credits

Course List                      Computer Electronics Technology 430 - RF Communications - 3 credits

Course List                      Computer Electronics Technology 497 - Capstone I - 2 credits

Course List                      Computer Electronics Technology 498 - Capstone II - 2 credits

Requirement Note

Requirement Type              Related Major Requirements (22 credits)

Course List

Course List                      ENGR 150 Introduction to Engineering - 3 credits

Course List                      ENGR 240 Computational Methods for Engineering - 3 credits

Course List                      CHEM 161 General Chemistry - 3 credits

Course List                      CHEM 162 General Chemistry Laboratory - 1 credits

Course List                      MATH 222 Calculus III - 4 credits

Course List                      MATH 226 Linear Algebra and Probability for Engineers - 4 credits

Course List

MATH 355 Introduction to Differential Equations with Applications - 4 credits

Requirement Note

Requirement Type Directed Electives (3 credits)

Course List

Course List Directed Elective Approved by your Advisor (3 credits) - credits

Requirement Note

Requirement Type Study Area I (6 credits)

Course List

Course List Literature - credits

Course List PHIL 144 Moral Issues - 3 credits

Requirement Note

Requirement Type Study Area II (6 credits)

Course List

Course List History - credits

Course List ECON 200 Principles of Macroeconomics - 3 credits

Course List or - credits

Course List ECON 201 Principles of Microeconomics - 3 credits



Requirement Note

Course List

Requirement Type Study Area III (6 credits)

Course List

Requirement Note

Course List

Requirement Type Study Area IV (8 credits)

Course List

Course List PHYS 125 University Physics I - 4 credits

Course List PHYS 126 University Physics II - 4 credits

Requirement Note

Requirement Type Skill Area I (6 credits)

Course List

Course List WRT 105 Enhanced Introduction to College Writing - 3 credits

Course List or - credits

Course List WRT 110 Introduction to College Writing - 3 credits

Course List ENGR 290 Engineering Technical Writing and Presentation - 3 credits

Requirement Note

Requirement Type Skill Area II (8 credits)

Course List

Course List MATH 152 Calculus I - 4 credits

Course List MATH 221 Calculus II - 4 credits

Requirement Note

Requirement Type Skill Area III

Course List

Requirement Note

Requirement Type Skill Area IV (2 credits)

Course List

Course List

PE 144 Fitness/Wellness Ventures - 2 credits has been deleted or replaced. SmartCatalog recommends removing the item if it has been deleted from the catalog.

Requirement Note

College  
ROF K

SEST

Department Computer Electronics and Graphics Technology

Total Number of Required Hours 128

Minor Required No

Specific Admission Standards see attached

Is this a graduate program? No

Rationale and Effects

Academic Rationale

The BSEE program will provide students with a broad and thorough education in the fundamentals of Electrical Engineering, applications, and design to prepare them to be practicing engineers. Graduates will apply their skills to meet the technical and social challenges of the future.

Demand Rationale

According to the United States Bureau of Labor Statistics predicts a 9% growth in employment opportunities for Electrical Engineers between 2016 and 2026. A 2017 survey of Connecticut Manufacturing Workforce Needs by the Connecticut Business & Industry Association (CBIA) shows Electrical Engineers are the third most in-demand occupation and the most in-demand occupation with a specific job title with 1,752 positions open in 2018. Universities in Connecticut graduated 158 Electrical Engineers in the year 2017 causing employers to seek graduates from beyond our region.

Are there impacts to  
faculty needs?

*(checked)*

Changes:

~~(unchecked)~~(checked)

Faculty Effects

The new program in Electrical Engineering will require 3-4 new faculty lines as well as space to setup 4 laboratories to teach the courses.

Are there impacts to  
facilities needs?

*(checked)*

Changes:

~~(unchecked)~~(checked)

Facilities Effects

Setup for 4 laboratories

Are there impacts to  
equipment needs?

*(checked)*

Changes:

~~(unchecked)~~(checked)

Equipment Effects

Some new courses will require additional laboratory equipment

Are there impacts to library  
needs?

*(checked)*

Changes:

~~(unchecked)~~(checked)

Library Effects

The new courses that make up this degree have modest library requirements.

Are there impacts to  
computer needs?

*(checked)*

Changes:

~~(unchecked)~~(checked)

Computer Effects

A small number of courses that make up this degree will require additional software licenses.

Does this program lead to  
teacher certification? *(unchecked)*

Teacher Certification

Licensure Accreditation  
Concerns *(unchecked)*

Licensure Accreditation  
Explanation

Curriculum Sheet and/or  
Academic Map [BSEEAdminReqsEE Curriculum Map](#)

Dean and Committee  
Approval

Dean Review and  
Committee Approval  
Required **School of Engineering Science and Technology**

Received

Dean Review Received

[General Education Interdisciplinary School of Engineering Science and Technology.](#)

Committee Approval  
Received [School of Engineering Science and Technology.](#)

Date approved by  
department 14 December 2018

Additional Departments to  
be notified

Departments to be Notified

Select Version to Compare 1. Original Earth Science B.S.: General Earth Science Speciali ⌵  
 Select Current Proposed Version 19. Earth Science B.S.: General Earth Science Specialization ⌵

Compare Key

New Section ABC New/Modified Text  
 Deleted Section ~~ABC~~ Deleted Text

Select a Program [Earth Science B.S.: General Earth Science Specialization](#)

Program Name Earth Science B.S.: General Earth Science Specialization

Program Description A minor is not required with this major.

Degree Requirements

Degree Requirements Title Requirements

Optional Degree Requirements Note [Geological Sciences Core \(19 credits\)](#)

Requirement Type Required courses

Requirement Narrative

Course List

Course List GSCI 121 The Dynamic Earth - 3 credits

Course List or - credits

Course List GSCI 131 Environmental Geoscience - 3 credits

Course List	- credits
Course List	GSCI 125 The Dynamic Earth Laboratory - 1 credits
Course List	or - credits
Course List	GSCI 135 Environmental Geoscience Laboratory - 1 credits
Course List	- credits
Course List	GSCI 141 Earth and Life History - 3 credits
Course List	GSCI 145 Earth and Life History Laboratory - 1 credits
Course List	GSCI 221 Mineralogy - 4 credits
Course List	GSCI 223 Stratigraphy and Sedimentology - 4 credits
Course List	GSCI 290 Field Methods in Geology - 2 credits
Course List	GSCI 260 Communicating the Geological Sciences - 1 credits

Requirement Note In addition, 2 to 4 credits from GSCI 460 or 4 credits from an external geology field camp approved by the Department Chair are required.

Requirement Type The following ~~18~~17 credits are also required as follows:

Requirement Narrative

Course List



## Academic Rationale

For students in the Geology, Environmental Geology, and Planetary Geology BS specializations, the addition of GSCI 260 will be part of a two course sequence (along with GSCI 360 Research Methods) to prepare students for a Senior Project. For students in the Environmental Earth Science and General Earth Science BS specializations, it will be a valuable course to develop communication skills in the Geological Sciences that would be useful in other classes, but more importantly, in the workplace. The statement: "In addition, 2 to 4 credits from GSCI 460 or 4 credits from an external geology field camp approved by the Department Chair are required." was deleted as it was not intended for this program.

## Demand Rationale

This course will be required for all Geological Sciences majors.

Are there impacts to faculty needs?

*(checked)*

Changes:

~~(unchecked)~~ (checked)

Faculty Effects

GSCI 260 will be offered in the fall and be taught by current Geological Sciences faculty, and will rotate between faculty members to distribute load.

Are there impacts to facilities needs?

*(checked)*

Changes:

~~(unchecked)~~ (checked)

Facilities Effects

none

Are there impacts to equipment needs?

*(checked)*

Changes:

~~(unchecked)~~ (checked)

Equipment Effects

none

Are there impacts to library needs?

*(checked)*

Changes:

~~(unchecked)~~ (checked)

Library Effects

none

Requirement Note

Optional Program Footnote

proposed -  
1/15/2019

College

SEST

Department

Geological Sciences

Total Number of Required Hours

proposed -

Minor Required

Specific Admissions Standards

Is this a graduate program?

No

Rationale and Effects

Course List	MATH 124 Applied Calculus with Trigonometry - 4 credits
Course List	or - credits
Course List	MATH 115 Trigonometry - 3 credits
Course List	MATH 221 Calculus II - 4 credits
Course List	or - credits
Course List	MATH 125 Applied Calculus - 3 credits
Course List	or - credits
Course List	MATH 116 Pre-Calculus Mathematics - 3 credits
Course List	or - credits
Course List	STAT 104 Elementary Statistics - 3 credits
Course List	PHYS 125 University Physics I - 4 credits
Course List	or - credits
Course List	PHYS 121 General Physics I - 4 credits
Course List	PHYS 126 University Physics II - 4 credits
Course List	or - credits
Course List	PHYS 122 General Physics II - 4 credits

Course List

GSCI 129 Introduction to Meteorology - 4 credits

Requirement Note

The remaining ~~14~~13 credits will be selected from AST or GSCI at the 200 level or above in consultation with the student's advisor.

Requirement Type

In addition, the following 22-24 credits are required as follows:

Requirement Narrative

Course List

Course List

CHEM 161 General Chemistry - 3 credits

Course List

CHEM 162 General Chemistry Laboratory - 1 credits

Course List

CHEM 201 Foundations of Analytical Chemistry Laboratory - 1 credits

Course List

and - credits

Course List

CHEM 260 Foundations of Inorganic Chemistry - 3 credits

Course List

or - credits

Course List

BIO 121 General Biology I - 4 credits

Course List

MATH 152 Calculus I - 4 credits

Course List

or - credits

Course List

MATH 119 Pre-Calculus with Trigonometry - 4 credits

Course List

or - credits

Are there impacts to  
computer needs?

*(checked)*

Changes:

~~(unchecked)~~*(checked)*

Computer Effects

none

Does this program lead to  
teacher certification?

*(checked)*

Changes:

~~(unchecked)~~*(checked)*

Teacher Certification

none

Licensure Accreditation  
Concerns

*(checked)*

Changes:

~~(unchecked)~~*(checked)*

Licensure Accreditation  
Explanation

none

Curriculum Sheet and/or  
Academic Map

[AcademicMap Earth Science BS General Earth Science 2-5-19](#)

Dean and Committee  
Approval

Dean Review and  
Committee Approval  
Required

School of Engineering Science and Technology

Received

Dean Review Received

General Education Interdisciplinary School of Engineering Science and Technology School of Education and Professional Studies

Committee Approval  
Received

School of Engineering Science and Technology

Date approved by  
department

11-28-18

Additional Departments to  
be notified

Departments to be Notified