



# Sustainable Energy-Specialized Diploma (2020-21 Catalog)

## SEMESTER-BY-SEMESTER PROGRAM MAP FOR FULL-TIME STUDENTS

Courses are listed in preferred order of completion

Plans can be modified to fit student needs by adding more semesters

**Choose your courses with your Advisor.**

Developmental Education Courses (if required)			
<input type="checkbox"/>	ACLS050	Introduction to Academic Literacy	<input type="checkbox"/>
<input type="checkbox"/>	ENGL027	Writing Skills Workshop	<input type="checkbox"/>

<input type="checkbox"/>	MATH020	Pre-Algebra
<input type="checkbox"/>	MATH022	Elementary Algebra
<input type="checkbox"/>	MATH026	Intermediate Algebra

Location: B= BETH, M= MROE, S=SBTH, E= ESTN, D= DIST \*subject to change

complete	Course #	Course Title	Credits	Gen Ed	Fall	Winter	Spring	Summer	Pre-requisites / Co-requisites
Semester 1	<input type="checkbox"/>	COLS101	College Success	1		B, M, D	----	B, M, D	D
	<input type="checkbox"/>	ENGL101	English I	3		B	----	----	----
	<input type="checkbox"/>	EMEC101	Electrical Fundamentals	3		B	----	B	B
	<input type="checkbox"/>	HUMA150	Nature of the Environment	3		B,M,D	----	B,M,D	D
	<input type="checkbox"/>	MATH103 or MATH140*	Technical Mathematics or College Algebra	3	QL	B,D B,M,D	----	B,M,D B,M,D	---- M,B,D
	Total Semester Credits:			13					
Semester 2	<input type="checkbox"/>	CISC101	Introduction to Information Technology	3	CL	B, M, D	D	B, M, D	B, M, D
	<input type="checkbox"/>	ELTC130	Introduction to Sustainable Energy	3	Comm	B, M, D	----	B, M, D	B, M, D
	<input type="checkbox"/>	GEOG121	Environmental Sustainability	3	D	B, M	----	----	----
	<input type="checkbox"/>	ELTC222	Solar Photovoltaic Systems I	3		B	----	B	----
	Total Semester Credits:			12					
Total Degree Credits			25						

**Notes:**

\*MATH140 is recommended for students who wish to continue into the Associate in Applied Science degree (Electrical Technology) or who have plans to transfer.

**\*It is the student's responsibility to be knowledgeable of NCC graduation requirements and to verify transfer requirements with the 4-year institution. Courses listed on the program map are based upon the assumption that prerequisites and courses taken in previous semesters will be successfully completed**

**Program Narrative:**

Participants will gain an understanding of the fundamentals of energy conversion, conservation, sustainability and the role energy has played in the development of modern society. Combining fundamental coursework in electrical technology with courses in energy policy will help students develop a broad perspective on the issues, challenges, and potential solutions for global sustainable energy. This specialized diploma program offers students an introduction to the wide range of topics associated with sustainable energy, including electrical fundamentals, hands-on training experiences, and public policy development.

**Features:**

Students completing the program requirements will gain a broad understanding of the sustainable energy landscape, including global energy policy, energy fundamentals, current renewable energy alternatives, and practical hands-on electrical skills. After completion of the second semester Solar Photovoltaics System course students are eligible to sit for the NABCEP associate level exam (optional). Most of the completed courses may be applied towards a certificate or 2 year degree at NCC in Electrical Construction Technology, HVAC Technology, or Construction Management.

Admission to the program is open to any student meeting the standard college entrance requirements. To complete the on-campus program in a timely basis, students should meet with the electrical program manager for advising prior to entering the program. Contact the Admissions Office at 610.861.5500 for further information.

**Program Learning Outcomes:**

- Demonstrate an ability to work independently and collaboratively.
- Describe basic concepts as utilized for the transmission and storage of energy.
- Demonstrate critical thinking when evaluating and discussing alternative forms of energy generation.
- Apply mathematics to evaluate the relative costs of sustainable energy.
- Qualified to sit for the NABCEP PV Associate Examination.

**Transfer Information:**

While this diploma is not specifically intended for transfer, many of the content courses will directly articulate towards other degrees both within NCC and to other state institutions. The broad range of sustainability topics across course disciplines serves to prepare a student to direct their continued education towards management, science, engineering, technical, or a variety of other occupations.

**Career Information:**

Continued education towards a specific career path can lead to:

- General and operations managers
- Conservation scientists
- Environmental specialists
- Health and safety engineers
- Compliance officers
- Occupational health and safety specialists
- Solar Panel technicians
- Geothermal HVAC technicians

For a comprehensive listing go to: <https://www.bls.gov/green/sustainability/sustainability.htm>