



Course Name: Introduction to Renewable Energy

Lead Faculty: **Andrew McMahan**

School: **Central Carolina Community College**

Delivery Mode(s) for Intro to RE Course (i.e. face-to-face, online, hybrid, etc): **Face-to-Face**

Course Duration (semester, trimester, quarter, short-course, etc.) **Semester Long Course. Two hours per week of lecture and two hours per week of lab. 64 total contact hours per semester.**

of credits for the Intro to RE course **3 credit hours**

Program Name: **Sustainability Technologies**

When did the program start? **2009**

What geographic area do your students come from? **Mostly central North Carolina**

Number of Students in Program: **25**

Demographics: Percentage distribution

Gender

Male: **75%**

Female: **25%**

Ethnicity: **Caucasian - 65%**

African American – 15%

Hispanic – 10%

Other – 5%

What percentage if known - **Veterans: approx. 20%**

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Degree(s)/ Diplomas(s) / Certificate(s) Offered: **Certificate in Renewable Energy, Certificate in Green Building, Sustainability Technologies Associate Degree**

How Many Faculty teach renewable energy courses at your college (note if FT or PT)? **2 full time instructors, 6 part time adjunct instructors**

Description of Your Facilities (be sure to note any special lab facilities used for hands-on training):

The Renewable Energy Program is based on the Chatham County Campus of Central Carolina Community College. The campus features a variety of features that contribute to instruction including:

- **18,000 square foot LEED Gold “Sustainable Technologies” classroom building.**
- **Five acre Certified Organic farm on campus.**
- **Over 10kw of student installed photovoltaics installed on campus.**
- **100kw rooftop photovoltaic array on roof of main administration building.**
- **Two electric car charging stations**
- **On-site biofuels production and analytical laboratory**
- **Students build a 650 ft² house during the academic year and auction the house to the public. Funds generated by the auction are put back into the program for future student projects.**
- **20,000-gallon rainwater catchment system for flushing toilets, cooling tower water, and landscape irrigation.**
- **On-site “living machine” wastewater treatment facility**

Have you conducted a job market assessment? If yes, what were the findings?

The most recent data we have is from the North Carolina Sustainable Energy Associate which releases an annual Clean Energy Industry Census. Results from the 2016 report show that North Carolina employs approx. 34,300 people in the clean energy sector (an increase of 31% from 2015). Geographic data shows that the Triangle region of North Carolina houses a large number of the 1660 clean energy businesses in the state.

Link to 2016 NCSEA Clean Energy Industry Census:

https://energync.org/wp-content/uploads/2017/03/NC_Clean_Energy_Industry_Census_2016.pdf

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What do you think makes your program successful?

Instructors – We have a great group of instructors, most of whom have full time jobs in industry, and are able to bring their experiences to the classroom to share with our students.

Administrative Support – The administration at CCCC has always been very supportive of our sustainability related programs.

Reputation – CCCC has been involved with sustainability related education and training for over twenty years. In that time, we have gained significant local, regional, and national recognition for the work we do and the students who have come through our programs.

Location – The town of Pittsboro, while itself quite small, is located near several large populations (Chapel Hill, Durham, Raleigh, Sanford).

What are your industry ties? (If you have an industry advisory board, please describe its size and composition). **Our program has an advisory board comprised of approximately 10 renewable energy business owners.**

Do you offer internships? What is your placement rate? **Yes, our program requires students take complete an internship to complete the Associate Degree program. An internship is not required for the Certificate programs.**

Program Link: <http://www.cccc.edu/curriculum/majors/sustainabilitytechnologies/>

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