



NEW PROGRAM PROPOSAL FORM

Sponsoring Institution(s): Crowder College

Program Title: Energy Science

Degree/Certificate: Associate of Applied Science Degree (2 yr -A.A.S.)

Options: NA

Delivery Site(s): Crowder College in Neosho, and online

CIP Classification: 03.0103


*CIP code can be cross-referenced with programs offered in your region on MDHE's program inventory highered.mo.gov/ProgramInventory/search.jsp

Implementation Date: Fall 2015

Cooperative Partners: NA

*If this is a collaborative program, form CL must be included with this proposal

AUTHORIZATION:

Dr. Glenn Coltharp, VP for Academic Affairs		3-18-15
Name/Title of Institutional Officer	Signature	Date

Dr. Adam Morris	417-455-5740
Person to Contact for More Information	Telephone



STUDENT ENROLLMENT PROJECTIONS

Year	1	2	3	4	5
Full Time	10	10	10	10	15
Part Time	5	5	5	5	5
Total	15	15	15	20	20

Please provide a rationale regarding how student enrollment projections were calculated:

Based on feedback from the community and students. We plan on utilizing resources in the MARET center to start an Energy Science degree.

Provide a **rationale** for proposing this program, including **evidence of market demand and societal need supported by research**:

According to the Occupational Outlook Handbook <http://www.bls.gov/oooh/life-physical-and-social-science/environmental-science-and-protection-technicians.htm#tab-6> employment in this field is expected to grow 19% from 2012 to 2022. The environment and sustainability have been careers that have increased in the last few years, and will continue to increase in the near future. Students entering this field should have good opportunities for employment, and better than average wages.

The mission of Crowder College is to build a civil, serving, literate, learning community of responsible citizens. We view the college as having an activate role in economic and social development through continuing education and customized training, directed toward improving work skills and productivity, creating a more desirable work and social environment, and adding to the general quality of life within the region. This new program will add skilled workers to this career field, and meet a growing need in the community.

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Program Duplication:

There are no accredited associate degrees similar to this one offered in our service region by any other community colleges. There is no duplication of effort by other community colleges.



PROGRAM STRUCTURE

A. Total credits required for graduation: 68

B. Residency requirements, if any: None

C. General education: Total credits: 22

Courses (specific courses OR distribution area and credits):

Course Number	Credits	Course Title
COLL 101	1	College Orientation
ENGL 100 or 101	3	Mechanics or English Composition
ENGL 102 or 203	3	Advanced English Composition or Tech Writing
SPCH 101	3	Fundamentals of Speech
Math 111 or Math 104	3	College Algebra or Tech. Math
MATH 150	2	Calculus I Part I
PHYS 104	4	Technical Physics
PLSC 103 or HIST 10	3	National State and Local Government or US History I

D. Major requirements: Total credits: 46

Course Number	Credits	Course Title
ENER 105	3	Intro to Energy
ENER 132	3	Intro to Wind
ENER 134	3	Turbine Troubleshooting
ENER 160	3	Process Controls
ENER 162	3	Power Transmission and Dist.
ENER 201	3	SCADA
ENER 232	3	Wind Turbine Internship
ENER 260	3	Solar Electric Energy
ENER 261	3	Solar Electric Energy Lab
AMT 104	3	Electrical Motor Controls
AMT 112	3	Occupational Safety
AMT 204	3	Programmable Controllers
CNS 101	3	Introduction to Electronics
MATH 112	2	Trigonometry
PHYS 190	5	General Physics

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E. Free elective credits:

0

(Sum of C, D, and E should equal A.)

F. Requirements for thesis, internship or other capstone experience:

The program does require an internship

G. Any unique features such as interdepartmental cooperation:

None



PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

Institution Name Crowder College
Program Name Energy Science A.A.S.
Date 02/28/2015

(Although all of the following guidelines may not be applicable to the proposed program, please carefully consider the elements in each area and respond as completely as possible in the format below. Quantification of performance goals should be included wherever possible.)

1. Student Preparation

- Any special admissions procedures or student qualifications required for this program which exceed regular university admissions, standards, e.g., ACT score, completion of core curriculum, portfolio, personal interview, etc. Please note if no special preparation will be required.
No special admissions procedures or student qualifications beyond regular college admissions and standards.
- Characteristics of a specific population to be served, if applicable.
N/A

2. Faculty Characteristics

- Any special requirements (degree status, training, etc.) for assignment of teaching for this degree/certificate.
We currently have 2 FT faculty members trained in this area. Both have expertise in renewable energy and program development.
- Estimated percentage of credit hours that will be assigned to full time faculty. Please use the term "full time faculty" (and not FTE) in your descriptions here.
Full-time faculty will teach no more than 15 program credit hours. Any courses that cannot be taught by full-time will be delegated to an adjunct faculty member.
- Expectations for professional activities, special student contact, teaching/learning innovation.
Participation by industry partners, and appropriate program accreditation will be encouraged and/or required for instructors and students.

3. Enrollment Projections

- Student FTE majoring in program by the end of five years.
15

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- Percent of full time and part time enrollment by the end of five years.
An estimation of full time enrollment is approximately 75%; while part time enrollment is estimated at 25%.

4. Student and Program Outcomes

- Number of graduates per annum at three and five years after implementation.
5 graduates per annum at three years and 10 graduates per annum at five years after implementation.
- Special skills specific to the program.
N/A
- Proportion of students who will achieve licensing, certification, or registration.
N/A
- Performance on national and/or local assessments, e.g., percent of students scoring above the 50th percentile on normed tests; percent of students achieving minimal cut-scores on criterion-referenced tests. Include expected results on assessments of general education and on exit assessments in a particular discipline as well as the name of any nationally recognized assessments used.
It is anticipated that students will pass above the 80th percentile on the ETS proficiency exam
- Placement rates in related fields, in other fields, unemployed.
The expected opportunity for placement of graduates from energy science program into the work specific or closely related field is 95%.
- Transfer rates, continuous study.
Crowder College awards the AAS degree as a workforce preparation degree. Students seeking to transfer to a baccalaureate degree program in energy science or a related field may wish to pursue additional coursework as electives. The college will pursue articulation agreements with institutions who award such a degree and maintain this information for students.

5. Program Accreditation

- Institutional plans for accreditation, if applicable, including accrediting agency and timeline. **If there are no plans to seek specialized accreditation, please provide a rationale.**
Crowder College plans to seek program accreditation with the appropriate agencies.

6. Alumni and Employer Survey

- Expected satisfaction rates for alumni, *including timing and method of surveys.*

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Through the office of Career Services, Crowder College uses the Perkins 180-day follow-up survey/questionnaire that is sent to all career and technical program graduates.

- Expected satisfaction rates for employers, including timing and method of surveys. Through the office of Career Services, Crowder College conducts its own employer satisfaction survey 300 days after students graduate. We anticipate an 80% or higher satisfaction rate.

7. Institutional Characteristics

- Characteristics demonstrating why your institution is particularly well-equipped to support the program.

Crowder College is accredited by the Missouri Department of Elementary and Secondary Education and the Coordinating Board for Higher Education. The college is also fully accredited by the Higher Learning Commission a member of the North Central Association. Crowder College provides opportunities for people to pursue associate degrees, certificate and diploma programs, plus continuing education to include: a program of Arts and Sciences directed toward transfer to baccalaureate degree granting institutions and to general intellectual enrichment, career education leading to economic self reliance both developmental and honors education to allow greater opportunity to fully exercise each individual's academic potential, endeavors to enrich life through cultural and a vocational opportunity, and partnerships with business, industry and others designed to support a great quality of life and an economic base in the community.