LUMPKIN COLLEGE OF BUSINESS AND TECHNOLOGY
Sustainable Energy program changes

CGS Agenda Item: 19-54
Effective Spring 2020

TO: Amy Annis, LCBT Certifying Officer

FROM: Nichole Hugo, Graduate Coordinator of Sustainable Energy

DATE: 10/8/2019

ACTION REQUESTED AND RATIONALE:
Change the name of the MS in Sustainable Energy to the MS in Sustainability. Change the courses to offer more options and broaden the scope of the program.

EFFECTIVE DATE: Spring 2020

Current Catalog Copy

Sustainable Energy

Program Vision:

The Master of Science in Sustainable Energy graduate degree program focuses on preparing leaders for the entire energy industry. The degree is science based and technology management focused.

Program Mission:

The purpose of the Master of Science in Sustainable Energy degree program is to empower and enable students to develop advanced knowledge and skills in order to become leaders and managers in the energy industry. Specifically,
• Students will have a solid understanding of the sciences and technology related to energy production, conversion, utilization and conservation.
• Students will understand the economic, environmental and policy impact of a sustainable energy practice for a sustainable society.
• Students will develop the research and communication abilities to be effective leaders in the energy industry.

Admission Requirements:

To be eligible for degree candidacy, applicants must meet all of the requirements for admission to the Graduate School (see "Admission to Degree and Certificate Programs"). In addition to the published university graduate degree status requirements, the Center for Clean Energy Research and Education (CENCERE) requires that applicants demonstrate the following:

• A bachelor's degree from an accredited institution
• A minimum undergraduate GPA of 2.75
• Submission of a GRE or GMAT score
• Relevant experience and desire to work in energy industry
• For international students, an acceptable English proficiency established by the university

Provisionally admitted students may be required to complete course work in related fields to meet admission requirements established by the Program Advisory Board.

Degree Audit:

The graduate plan of study is the EIU Degree Audit, which is generated automatically in the Degree Audit Reporting System (DARS) at the time of degree candidacy. Modifications of the standard EIU Degree Audit are submitted by the director to the certification officer in the Graduate School at the time modifications are approved. The Degree Audit serves as an unofficial summary of requirements for the program. Degree candidates are advised to review the comprehensive summary of the Degree Audit process specified on the "Requirements for All Degree and Certificate Candidates" section of the Graduate Catalog. Individual programs may require candidates to submit plans of study in addition to the Degree Audit, candidates should consult with the program director.

Degree Requirements

Degree requirements include those outlined for the master's degree by the Graduate School (see "Requirements for the Master's Degree").

Students are required to complete the followings courses for a total of 36 credit hours, to be eligible for the degree:

- BIO 5333 - Bioenergy and Bioresources Credits: 3
- CHM 5007 - Energy Chemistry Credits: 3
- TEC 5533 - Biomass Gasification Credits: 3
- PHY 5233 - Energy and the Environment Credits: 3
- TEC 5103 - Science and Technology of Leadership. Credits: 3
- OR
- MBA 5680 - Organizational Behavior and Group Dynamics. Credits: 3
- TEC 5133 - Total Quality Systems. Credits: 3
- OR
- MBA 5660 - Operations Management. Credits: 3
- MBA 5001 - Business Operations in Sustainable Energy Facilities Credits: 3
- PLS 5843 - Seminar in Public Policy. Credits: 3
- ECN 5411 - Seminar in Natural Resource and Environmental Econ Credits: 3
- TEC 5143 - Research in Technology Credits: 3
- CMN 5260 - Science and Technical Communication Credits: 3
- OR

- ENG 5260 - Science and Technical Communication Credits: 3
- CERE 5983 - Sustainability Practicum Credits: 3
- CERE 5953 - Sustainability Research Credits: 3
- Certification of Comprehensive Knowledge: All students are required to successfully pass a written comprehensive examination prior to the completion of the graduate degree.

The following flexibilities may apply: Students from a specific area may elect to take a more advanced course in the discipline in place of the above course(s). For example, a student with a bachelor degree in chemistry may elect to take a more advanced course from the department of chemistry to substitute the above "Energy Chemistry" course. Prior approval from the program director is required. On the same level, students may elect to take either course. For example, a student may take "PLS 5843 Topical Seminar in Public Policy" or "ECN 5411 Seminar in Natural Resources and Environmental Economics," to meet the degree requirement. TEC 5143 Research in Technology may be replaced by an equivalent research methods course from other participating departments/schools. Prior approval from the program director is required.

Dual Degree Credits

To help students become more marketable and more valuable to their prospective employers, courses taken for the Master of Science in Sustainable Energy may serve as dual credits for another degree from any participating department. This option offers an opportunity for a student to receive dual Master degrees at Eastern Illinois University.

Courses for the Master of Science in Sustainable Energy degree may be taken by students of participating departments, as elective or required courses. Applicability of those courses of Master of Science in Sustainable Energy to any graduate program of a participating department is determined by the participating department. Students are advised to seek approval from their home departments, prior to take the courses.

If a student has taken one of the above courses during his/her graduate study in a participating department, s/he has already fulfilled the partial requirement for the Master of Science in Sustainable Energy degree. For example, if a student from MBA program has taken the course of "MBA 5680 Organizational Behavior and Group Dynamics," s/he will be only required to complete remaining 33 hours to be eligible for the Master of Science in Sustainable Energy degree.

Graduated international students from a participating department will be allowed to come back to complete the Master of Science in Sustainable Energy degree.

The dual degree credits only apply to the above specific courses required by the degree of Master of Science in Sustainable Energy. Other courses are subject to further approvals by both the participating department and this Sustainable Energy program.

Transfer Credits

Courses taken at other institutions will be reviewed by the director to determine if they can be transferred to the Master of Science in Sustainable Energy degree program, based upon the policies regarding Previously Earned Credit outlined in the Graduate Catalog. CERE 5983 Sustainability Practicum" and " CERE 5953 Sustainable Energy Research" will not be replaced by any transfer credits.

Proposed Catalog Copy

Sustainability

~~**Program Vision:**~~

~~The Master of Science in Sustainable Energy graduate degree program focuses on preparing leaders for the entire energy industry. The degree is science based and technology management focused.~~

Program Mission:

~~The purpose of the Master of Science in Sustainable Energy degree program is to empower and enable students to develop advanced knowledge and skills in order to become leaders and managers in the energy industry. Specifically,~~
~~• Students will have a solid understanding of the sciences and technology related to energy production, conversion, utilization and conservation.~~
~~• Students will understand the economic, environmental and policy impact of a sustainable energy practice for a sustainable society.~~
~~• Students will develop the research and communication abilities to be effective leaders in the energy industry.~~

The Master of Science in Sustainability focuses on providing students with interdisciplinary and applied knowledge of the field of sustainability and the environment. In addition to a required core set of courses, the program provides four elective routes that allow students to cater their program toward their professional interest in sustainability, including options in Energy Management, Natural Resources, Social Practices and Community Engagement, and an option that permits curriculum flexibility, such that students could prepare for work in the public or private sector. This degree program is aimed primarily at preparing practitioners and professionals in the fields of Sustainability.

Admission Requirements:

To be eligible for degree candidacy, applicants must meet all of the requirements for admission to the Graduate School (see "Admission to Degree and Certificate Programs"). ~~In addition to the published university graduate degree status requirements, the Center for Clean Energy Research and Education (CENCERE) requires that applicants demonstrate the following:~~
~~• A bachelor's degree from an accredited institution~~

~~• A minimum undergraduate GPA of 2.75~~
~~• Submission of a GRE or GMAT score~~
~~• Relevant experience and desire to work in energy industry~~
~~• For international students, an acceptable English proficiency established by the university~~

~~Provisionally admitted students may be required to complete course work in related fields to meet admission requirements established by the Program Advisory Board.~~

- Candidates for the Master of Science in Sustainability must submit a one page Statement of Purpose, two letters of recommendation, and a resume.

Degree Audit

The graduate plan of study is the EIU Degree Audit, which is generated automatically in the Degree Audit Reporting System (DARS) at the time of degree or certificate candidacy. Modifications of the standard EIU Degree Audit are submitted by the graduate coordinator to the certification officer in the Graduate School at the time modifications are approved. The Degree Audit serves as an unofficial summary of requirements for the program. Degree and certificate candidates are advised to review the comprehensive summary of the Degree Audit process specified on the "Requirements for All Degree and Certificate Candidates" section of the Graduate Catalog. Individual programs may require candidates to submit plans of study in addition to the Degree Audit, candidates should consult with the program coordinator.

Degree Requirements

Degree requirements include those outlined for the master's degree by the Graduate School (see "Requirements for the Master's Degree").

Students are required to complete the followings courses for a total of ~~36~~ 33 credit hours, to be eligible for the degree:

- ~~BIO 5333 - Bioenergy and Bioresources Credits: 3~~
- ~~CHM 5007 - Energy Chemistry Credits: 3~~
- ~~TEC 5533 - Biomass Gasification Credits: 3~~
- ~~PHY 5233 - Energy and the Environment Credits: 3~~
- ~~TEC 5103 - Science and Technology of Leadership. Credits: 3~~
- ~~OR~~
- ~~MBA 5680 - Organizational Behavior and Group Dynamics. Credits: 3~~
- ~~TEC 5133 - Total Quality Systems. Credits: 3~~
- ~~OR~~
- ~~MBA 5660 - Operations Management. Credits: 3~~
- ~~MBA 5001 - Business Operations in Sustainable Energy Facilities Credits: 3~~
- ~~PLS 5843 - Seminar in Public Policy. Credits: 3~~
- ~~ECN 5411 - Seminar in Natural Resource and Environmental Econ Credits: 3~~

- ~~TEC 5143 - Research in Technology Credits: 3~~
- ~~CMN 5260 - Science and Technical Communication Credits: 3~~
- ~~OR~~
- ~~ENG 5260 - Science and Technical Communication Credits: 3~~
- ~~CERE 5983 - Sustainability Practicum Credits: 3~~
- ~~CERE 5953 - Sustainability Research Credits: 3~~
- ~~Certification of Comprehensive Knowledge: All students are required to successfully pass a written comprehensive examination prior to the completion of the graduate degree.~~

~~The following flexibilities may apply: Students from a specific area may elect to take a more advanced course in the discipline in place of the above course(s). For example, a student with a bachelor degree in chemistry may elect to take a more advanced course from the department of chemistry to substitute the above "Energy Chemistry" course. Prior approval from the program director is required. On the same level, students may elect to take either course. For example, a student may take "PLS 5843 Topical Seminar in Public Policy" or "ECN 5411 Seminar in Natural Resources and Environmental Economics," to meet the degree requirement. TEC 5143 Research in Technology may be replaced by an equivalent research methods course from other participating departments/schools. Prior approval from the program director is required.~~

***Required Core**:* Students are required to take the following 18 hours:

PLS 4763: Environmental Politics and Policy

CERE 5100: Introduction to Sustainability

GEO 5200: Human Impact and the Environment

CMN/ENG 5260: Science and Technical Communication

PLS 4793: Civic and Non-Profit Leadership, or
TEC 5103: Leadership in Technology

TEC 5143: Research in Technology, or
PLS 5054: Applied Research Methods in Public Administration and Public Policy, or
CMN 5040: Communication Research Methods

Elective Options in Sustainability

Students select one of the following four routes to complete 15 hours of additional coursework.

Energy Management

GEO 4850: Environmental Geology

CHM 5007: Energy Chemistry

PHY 5233: Energy and the Environment

TEC 5133: Total Quality Systems

TEC 5173: Global Technology

TEC 5533: Biomass Gasification and Renewable Energy

CERE 5953 Sustainability Research

ECN 5410: Introduction to the Economics of Sustainability
CERE 5983: Practicum

Natural Resources

FMD 4772: Sustainability and Social Change

BIO 4812: Fish Ecology Management

BIO 4814: Conservation Biology

BIO 4816: Study of Biotic Communities

BIO 5200: Stream Ecology

BIO 5204: Ecotoxicology and Biological Monitoring of Pollution

BIO 5209: Community Ecology

BIO 5333: Bioenergy and Bioresources

GEO 5810: Introduction to Geographic Information Sciences

CERE 5953: Sustainability Research
CERE 5983: Practicum

Social Practices and Community Engagement

FMD 4772: Sustainability and Social Change

CMN 4820: Political Communication

GEO 4850: Environmental Geology

PLS 4873: Human Resource Management in Public and NonProfit Organizations

PLS 4893: Budgeting in Governments and Nonprofits

PLS 5153: Cities and Urban Politics in the US

PLS 5163: State Government and Policy

GEO 5810: Introduction to Geographic Information Sciences

CERE 5953: Sustainability Research

ECN 5410: Introduction to the Economics of Sustainability
CERE 5983: Practicum

MS in Sustainability: This option applies broadly and may contain any 15 hours in the identified three options above to fit the student's professional focus, content area interest or career concentration.

Independent study options, and other course substitutions may be considered in consultation with and prior approval from the program's graduate coordinator.

Approved by the Sustainability Committee: Sept 25th, 2019

Approved by the LCBT Curriculum Committee: October 8th, 2019

Approved by CGS: November 19th, 2019