

***STUDENT LEARNING ASSESSMENT PROGRAM  
SUMMARY FORM AY 2019-2020***

**Degree and Program Name:**

Master of Science in Sustainability  
(Interdisciplinary)

**Submitted By:**

Dr. Nichole Hugo, Graduate Coordinator

**PART ONE**

\*The MS in Sustainable Energy Program was revised to an MS in Sustainability in Spring 2020, therefore data was only collected for the Spring 2020 semester as courses previously required for this degree were removed or are now offered as electives.

<b>What are the learning objectives?</b>	<b>How, where, and when are they assessed?</b>	<b>What are the expectations?</b>	<b>What are the results?</b>	<b>Committee/ person responsible? How are results shared?</b>
<p>1. Students will demonstrate understanding of principles related to the field of sustainability (CGS goal: depth of content knowledge)</p>	<p>The Sustainability program design was based on studying sustainability with an interdisciplinary focus. The scientific knowledge and skills are addressed by departments, including Geology and Geography, Political Science, and School of Technology.</p> <p>There are six (6) required core courses that all students must take, regardless of which option they are pursuing. Three (3) focus on sustainability content:</p> <ul style="list-style-type: none"> <li>• CERE 5100 Intro to Sustainability</li> <li>• GEO 5200 Human Impact and the Environment</li> <li>• PLS 4763 Environmental Politics and Policy</li> </ul>	<p>Students are expected to understand:</p> <ul style="list-style-type: none"> <li>• The three pillars of sustainability (economic, social and environmental) and the extent of the impacts in which sustainability attempts to balance these areas of concern</li> <li>• How greenhouse gases contribute to global changes</li> <li>• Political policy and its role in minimizing negative impacts to the three pillars of sustainability</li> </ul> <p>Students are expected to score an 80% or higher on their assessment in order to meet</p>	<p>Out of 4 students enrolled in CERE 5100 in Spring 2020 semester, 4 students (100 %) met expectations of 80% or higher on Assignment 1 and 0 students (or 0%) did not meet the expectations for Assignment 1. (80, 83, 93, 93%)</p> <p>GEO 5200 being offered FA 2020 (no data to report until the end of the semester)</p> <p>Out of 4 students enrolled in PLS 4763 in Spring 2020 semester, 4 students (100 %) met expectations of 80% or higher on</p>	<p>The results are also shared and discussed during the regular Sustainability board meeting every semester.</p> <p>Based upon the assessment feedback, faculty members are contacted individually based on feedback from students in their exit interview and recommendations for adjusting their way of instruction is provided the content can be readily understood by students with non-science background.</p>

	<p>Students are assessed in the above courses in terms of the depth of knowledge of sustainability principles. Either class projects or comprehensive research papers were used to assess the knowledge acquisition of the respective science disciplines by students.</p> <p>At the end of every semester, assessment data will be submitted by faculty teaching the courses that are on regular rotation.</p>	<p>expectations.</p>	<p>0 students (or 0%) exceeded expectations, and 0 students (or 0%) did not meet the expectations for Graduate Student Research Proposal and Annotated Bibliography. (88, 89, 92, 92%)</p>	
<p>2. Students will be able to apply leadership and managerial practices in sustainability (CGS goal: depth of content knowledge)</p>	<p>Students will be assessed in leadership and managerial practices in:</p> <ul style="list-style-type: none"> <li>• TEC 5103 Leadership in Technology OR</li> <li>• PLS Civic and Non-Profit Leadership</li> </ul> <p>Students are assessed in the above courses in terms of the depth of science knowledge. Either class projects or comprehensive research papers were used to assess the knowledge acquisition of the respective leadership or management principles by students.</p> <p>At the end of every semester, assessment data will be submitted by faculty teaching the courses that are regular rotation.</p>	<p>The following “technology management” program outcomes are addressed in the delivery of the graduate program:</p> <ul style="list-style-type: none"> <li>• Organizational effectiveness and leadership;</li> <li>• Employee motivation and empowerment;</li> <li>• Customer focus and service excellence;</li> <li>• Sustainability, environment and corporate social responsibility;</li> </ul> <p>Students must possess knowledge of leadership, and managerial principles and practices related to sustainable energy operations.</p> <p>Students are expected to score an 80% or higher on their</p>	<p>Students are enrolled in TEC 5103 in the Fall 2020 semester (no data to report until the end of the semester)</p>	<p>The results are also shared and discussed during the regular Sustainability board meeting every semester.</p> <p>Based upon the assessment feedback, faculty members are contacted individually based on feedback from students in their exit interview and recommendations for adjusting their way of instruction is provided the content can be readily understood by students with non-science background.</p>

		assessment in order to meet expectations.		
3. Students will be able to apply critical thinking and problem solving skills in the areas of sustainability. (CGS goal: Effective critical thinking and problem solving)	<p>CERE 5100 gives students opportunities to connect what they learned in classroom to real-world applications. This is one of the best ways to promote and test students' problem solving skills. The final paper in this course has them address a specific issue and analyze how to address it with recommendations for solutions</p> <p>In terms of critical thinking and problem solving skills, students will be assessed in the following venue: CERE 5100 Final Research Paper</p> <p>At the end of the semester, assessment data will be submitted by faculty when the course is offered.</p>	Students are expected to score an 80% or higher on their final paper in order to meet expectations.	Out of 4 students enrolled in CERE 5100 in Spring 2020 semester, 4 students (100 %) met expectations of 80% or higher on the Final Research Paper. 0 students (or 0%) did not meet the expectations the Final Research Paper. (98, 98, 99, 100%)	<p>The results are also shared and discussed during the regular Sustainability board meeting every semester.</p> <p>Based upon the assessment feedback, faculty members are contacted individually based on feedback from students in their exit interview and recommendations for adjusting their way of instruction is provided the content can be readily understood by students with non-science background.</p>
4. Students will be able to conduct intellectual research related to sustainability. (CGS goal: Advanced scholarship through research or creative activity)	<p>Students will understand the appropriate procedures for conducting research in either:</p> <ul style="list-style-type: none"> <li>• TEC 5143 Research in Technology OR</li> <li>• PLS 5054 Applied Research Methods in Public Policy OR</li> <li>• CMN Communication Research Methods</li> </ul> <p>Students are assessed in the above courses in terms of the depth of science knowledge. Either class projects or</p>	<p>At the end of the program, students must demonstrate their ability to conduct meaningful research, related to sustainability.</p> <p>Students are expected to score an 80% or higher on their assessment in order to meet expectations.</p> <p>There are no expectations of extracurricular research to be completed by students outside of these classes, but totals will still be maintained to</p>	<p>No students enrolled in these courses in Spring 2020</p> <p>SP2020 Research Funding</p> <ul style="list-style-type: none"> <li>• Plummer Award (\$1,200 each)- 2 students</li> </ul> <p>SP2020 Conferences</p> <ul style="list-style-type: none"> <li>• REV2020 Presentation- 1 student</li> <li>• EIU Research and Creative Activity Day Presentations- 4 students</li> <li>• Sustainability as a</li> </ul>	<p>The results are also shared and discussed during the regular Sustainability board meeting every semester.</p> <p>Based upon the assessment feedback, faculty members are contacted individually based on feedback from students in their exit interview and recommendations for adjusting their way of instruction is provided the</p>

	<p>comprehensive research papers were used to assess the knowledge acquisition of the respective leadership or management principles by students.</p> <p>At the end of every semester, assessment data will be submitted by faculty teaching the courses that are regular rotation.</p> <p>While not required, students are strongly encouraged to apply for research funding, present research at conferences, and publish in journal articles. Totals will be kept of these extracurricular research activities.</p>	<p>document these successes.</p>	<p>Solution to Global Business Challenges Conference (cancelled due to COVID)-1 student</p> <ul style="list-style-type: none"> <li>American Planning Association Conference (cancelled due to COVID)- 1 student</li> </ul> <p>SP2020 Publications</p> <ul style="list-style-type: none"> <li>REV2020 Conference- full paper publication- 1 student</li> </ul>	<p>content can be readily understood by students with non-science background.</p>
<p>5. Students will develop effective oral and written communication skill (CGS goal: effective oral and written communication)</p>	<p>1. Students will be assessed in the following required course: CMN/ENG 5260 Science and Technical Communication</p> <p>Written communication is assessed through the final project, the culminating assignment for the semester.</p> <p>Oral communication is assessed through presentation of the final project.</p> <p>At the end of semester when the course is offered, assessment data will be submitted by the faculty team teaching the course.</p> <p>Students' ability to communicate</p>	<p>Students possess effective oral and written communication skills, related to sustainability.</p> <p>Students are expected to score an 80% or higher on their assessment in order to meet expectations.</p>	<p>No students enrolled in these courses in Spring 2020</p> <p>Exit interview: Spring 2020- 2/2 students met expectations of a score of 80/100 or higher (100, 100)</p> <p>Summer 2020- 2/2 students met expectations of a score of 80/100 or higher (95, 95)</p>	<p>The results are also shared and discussed during the regular Sustainability board meeting every semester.</p> <p>Based upon the assessment feedback, faculty members are contacted individually based on feedback from students in their exit interview and recommendations for adjusting their way of instruction is provided the content can be readily understood by students with non-science background.</p>

	<p>in writing and oral form will also be assessed during an exit interview before their graduation. Students will be asked a sustainability related question and a score from 0-100 will be given based on their ability to adequately answer the question clearly.</p>			
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## **PART TWO**

*Describe your program's assessment accomplishments since your last report was submitted. Discuss ways in which you have responded to the CASA Director's comments on last year's report or simply describe what assessment work was initiated, continued, or completed.*

### ***A. Competency or Comprehensive Knowledge Assessment on Graduates:***

In addition to regular assessment or evaluation during classes, graduates were assessed of their competency and comprehensive knowledge in the field of Sustainability at the conclusion of their graduate study. As a sampling method, students are asked one question related to Sustainability during the graduates' exit interview. The questions are not released ahead of time, and may vary from student to student. The following lists some sample questions:

- a) What is the greenhouse gas? What is its effect on humans living on Earth?
- b) What is the impact of renewable energy vs. fossil fuel?
- c) What tactics are used to provide balance to the three pillars of sustainability?
- d) What is the Brundtland Report and what importance does it play in the field of sustainability?
- e) What kind of policy will be needed to promote sustainability and/or sustainable energy?
- f) What sustainable energy process is the solution to our energy crisis?

Based upon the student response to the question, the program director will further ask related or follow up questions to clarify the response, and she will assign a score for student's comprehensive knowledge in Sustainability. A maximum score will be 100 and minimum will be 0. Since this is used only for program assessment purpose, the score will not be shared with students. Continuing monitoring of the score is expected since the inception of the graduate program. Consequently, the assessment results provide a gauge independently on the outcome of student learning in the program.

As of Spring 2020, a composite score of 97.5% (n=4) was achieved for knowledge acquisition by all the graduates from the program. The students demonstrated a strong demonstration of content knowledge and the ability to clearly communicate their ideas.

### ***B. Program Outcome:***

An exit interview is conducted with every graduate from the Sustainability program, at the conclusion of students' graduate study. Graduates are asked about questions related to the program outcome, and asked to provide a score for each question, with a scale from 0 to 10, 0 being strongly disagree, and 10 strongly agree. Additional comments are also solicited for each question and recorded.

The following illustrates the program outcome, as of Spring 2020:

- a) ***Faculty Expertise: I would describe the interaction with faculty during graduate study in Sustainability as strong and effective***

The cumulative score for this question is 8.5 out of 10 since the inception of the program (Spring 2020). It was anticipated that the student-faculty interaction may be a challenge due to the interdisciplinary nature of the program and the fact that students may not know their faculty well. Nevertheless, the overwhelming response to this question is highly positive. Students shared their high levels of satisfaction toward faculty members and pointed out specific faculty members to highlight what they liked and what could be improved upon. This shows the fact that faculty in our contributing departments/schools are all committed and dedicated to the students' success, which is very encouraging for an interdisciplinary graduate program.

- b) ***Overall Experience: I would describe the overall experience in Master of Science in Sustainable Energy program as superior.***

The cumulative score for this question is 8.1 out of 10 since the inception of the program (Spring 2020). It is observed that students highly regard their superior experience in MS in Sustainability program. .

- c) ***Employment Outlook: I feel confident as a highly competitive candidate for employment in the renewable energy market.***

The cumulative score for this question is 8.4 out of 10 since the inception of the program (Spring 2020). We are pleased to report that many individuals grow and mature significantly as a result of their graduate studies. Graduates from the program have become confident in the job market of sustainability.

### **PART THREE**

*Summarize changes and improvements in **curriculum, instruction, and learning** that have resulted from the implementation of your assessment program. How have you used the data? What have you learned? In light of what you have learned through your assessment efforts this year and in past years, what are your plans for the future?*

#### **New Courses and Revised Program structure:**

In order to expand the scope of the program from being focused solely on sustainability energy and renewable resources, the MS in Sustainability expanded so students could focus on either Energy Management, Natural Resources, or Social Practices and Community Engagement. The restructuring of the program with new courses being offered allows students the opportunity to choose courses that better fit their career interests.

Since this change, applications have increased overall. However, due to the issues with international students acquiring visas to come to the US, we have not seen an increase in enrollment yet. The goal is now to target domestic students with information about the expanded program.

With the changes to the program, it is difficult to determine what future changes should be made until more data has been collected.

**Student Learning Assessment Program**  
**Response to Summary Form**  
**Graduate Program 2020**  
 January 21, 2021

Department: Lumpkin College of Business and Technology  
 Degree and Program Name: M.S. in Sustainability  
 Reviewer: Dr. Nikki Hillier, Graduate Assessment Coordinator, Graduate School

<b>Category</b>	<b>Comments</b>
<b>Learning Objectives</b>	The objectives for the program encompass all the graduate learning goals established by EIU's Council on Graduate Studies, and each goal is clearly linked to the CGS goals in the report.
<b>How, Where, and When Assessed</b>	The report clearly states how students are assessed: different projects or papers in required classes, and then the exit interview. It is not clear where these classes fall in terms of the program- toward the beginning or the end, but using several classes to assess student learning shows that students are assessed throughout the curriculum.
<b>Expectations</b>	Expectations are appropriate for graduate learning and are clearly defined.
<b>Results</b>	The report indicates that all students are meeting or exceeding expectations. Including several detailed expectations in the plan highlight what students are expected to learn and how they can show they have that knowledge or skill. While it is not an expectation for the program, having students receive funding, present at conferences, and have publications accepted shows your program's commitment to graduate student research.
<b>How Results Will be Used</b>	Results are shared with the board and with individual faculty as needed.
<b>Recommendations</b>	Clearly, you took assessment into consideration with the very recent overhaul of your program. While there are only six core classes currently, all six classes offer opportunities for assessment, and students are meeting and exceeding expectations. The changes to the program will help students build a program that best fits their interest and hopefully help with recruitment.  Asking an essay-type question as opposed to only reflection/ self-assessment questions during the exit interview is an innovative addition to assessment. It might be helpful to include more than one faculty in the evaluation of those responses, especially as enrollment increases.  As the program grows, you may also consider assessments for each of the focus areas individually. The newly revamped program has an excellent assessment plan. We recommend continuing the work you are doing.

The Council on Graduate Studies approved of revised learning goals on December 8, 2020, which included the addition of an Ethical and Professional Responsibility learning goal. Please consult with your graduate faculty members to determine how to incorporate this learning goal into future assessment activities.