

M.S. In Energy System Management Assessment Plan 2017

Mission Statement

The MS in Energy Systems Management provides students with the knowledge, skills, and understanding to find meaningful work in the energy sector and to support the evolution of the low-carbon energy future.

Program Learning Outcomes

At the end of the program, students will be able to:

1. Utilize principles and processes of whole systems thinking to understand how the electricity and power system impacts and is related to ecological and social systems;
2. Articulate impacts electricity policy and market environments have on energy consumption and production;
3. Examine the human dimension of electricity systems including managing for change, stakeholder engagement, and customer engagement;
4. Communicate skillfully through written reports and oral presentations in styles relevant to the energy field;
5. Utilize critical analysis to understand why the current electricity generation and distribution system evolved and how to move it towards the 21st century grid.

Courses

ENGY 604-01 Energy Economics and Finance
ENGY 610-01 Quantitative Methods
ENGY 612-01 Energy Technologies
ENGY 624-01 Energy Industry Strategy & Policy
ENGY 626-01 Electricity Markets
ENGY 630-01 Power Systems: Electricity and Grids
ENGY 632-01 Leadership, Collaboration, Innovation
LAW Energy Law
ENGY 640-01 Community Projects
ENGY 696-01 Master's Project
ENGY 697-01 Internship

Assessment Plans

1. At the end of the program, in Spring 2019, student will complete and exit interview asking them to assess to what extent they achieved the stated learning outcomes for the program.

2. PLO #2 will be assessed based on the final paper assigned for Energy Industry Strategy and Policy. The course has not been offered yet. It will be offered in spring 2018 for the first time. Assessment of this artifact will take place in spring 2019 during the second time the course is offered so changes can be made to the assignment based on the experience and feedback from the first course offering.
3. During the spring of 2018, the external advisory board and the faculty board will review the PLOs for clarity, consistency with the program's objectives, and separability from each other.

Learning Outcomes Courses	1	2	3	4	5
	Utilize principles and processes of whole systems thinking to understand how the electricity and power system impacts and is related to ecological and social	Articulate impacts electricity policy and market environments have on energy consumption and production	Examine the human dimension of electricity systems including managing for change, stakeholder engagement, and customer engagement	Communicate skillfully through written reports and oral presentations in styles relevant to the energy field	Utilize critical analysis to understand why the current electricity generation and distribution system evolved and how to move it towards the 21st century grid
ENGY 604-01 Energy Economics and Finance	X	X		X	X
ENGY 610-01 Quantitative Methods	X				X
ENGY 612-01 Energy Technologies	X				X
ENGY 624-01 Energy Industry Strategy & Policy	X	X	X	X	X
ENGY 626-01 Electricity Markets		X	X		X
ENGY 630-01 Power Systems: Electricity and Grids	X				X
ENGY 632-01 Leadership, Collaboration, Innovation			X	X	
LAW Energy Law	X		X		
ENGY 640-01 Community Projects	X				
ENGY 696-01 Master's Project	X	X	X	X	X
ENGY 697-01 Internship	X		X	X	

Feedback M.S. in Energy System Management program

Dear Program coordinator,

Thank you for your submission of the assessment report for the ENGY for 2017. Here are a few comments that I hope will be of help.

Mission Statement

Your mission is concise and to the point, though if I can make a suggestion, I would reverse the fact that students, with the knowledge of the program will find meaningful work, and that they will support the evolution of the low-carbon energy future, as I think the former stems from the latter (correct me if I'm wrong). As an outsider looking in, I also wonder if your program isn't wider than just supporting the evolution of the low-carbon energy future (then maybe that's just your focus, I don't know). The point is that the mission should encapsulate the best of what you do for prospective students, their families, and potential employers, so by definition NOT people in the know.

Program Learning Outcomes

The positive: these PLOs are clearly articulated, are led by active verbs, and seem to be clearly and easily measurable. They also seem to cover a wide swath of learning areas.

Suggestions: though 3-5 PLOs are the standard for undergraduate majors, I wonder if for a shorter program like yours they are perhaps too many, as you will need to measure and assess each single one. If you wanted to have only 4 of them, for example, you could embed the skills you have in No. 4 into rubrics used for assessing the remaining ones.

Another point is the language of No. 1: perhaps it is your field's lingo, but to an outsider like me the verbiage is quite obscure, in particular I am not clear what "processes of whole systems thinking" means.

Curriculum maps

Thank you for the list of courses, though it would have been helpful to list which ones are required and which ones are electives, if any.

As for the curriculum map, it should list at what level each of the courses maps on to the each of the PLOs (introductory, developing, or mastery level) otherwise since you have multiple courses that map on to each and all PLOs (which is vaguely suspicious anyway) it would seem you really wouldn't need the others, since the learning outcomes would all be fulfilled by taking just those. I would suggest detailing the level of proficiency attained in each course for the appropriate PLOs and I think probably the map will then look a bit sparser.

Assessment Methods

Your assessment plan, including the planned recalibration of PLOs sound reasonable and feasible. I would recommend developing a rubric for the assessment and test-driving it with the Spring 2018 artifacts. Thank you

Alexandra Amati