Environmental Literacy (EL) Assessment Pilot Fall 2016

Our new curriculum requires students to complete at least one unit that meets the learning goals of environmental literacy courses. Courses that fulfill the EL requirement may come from a broad variety of departments and programs, but at least 50% of the course's content requires students to develop:

a. A recognition of the consequences of human activities on natural systems and/or
b. An awareness of the cultural, economic and political forces that affect environmental policies and/or
c. An understanding of natural systems and/or
d. The impacts natural systems can have on the environment, human life, health and welfare.

In fall 2015, faculty members teaching EL courses developed a rubric for the assessment of EL goals. The following spring semester, four faculty members piloted the rubric with their classes. A total of 234 students were assessed, though due to the "and/or" statements in this learning goal, not all students were evaluated across all learning goals.

Data from the assessments suggest that the majority of students are able to "assimilate and apply knowledge" or "create knowledge" at the end of the course, scoring a "2" or a "3" on the 3-point rubric. There are no gender differences and only a few class-year differences in performance. One of the next recommended steps by the Assessment Committee is that a faculty group refine the rubric further and that more classes be assessed in the next round.

Rubric

Learning Goals	Mastery – Creating knowledge	Developing-Assimilating and applying knowledge	Novice-- acquiring knowledge
LG1. Recognition of the consequences of human activities on natural systems	Able to express the importance of human impacts on the environment	Able to identify how humans impact the environment negatively	May know that humans impact the environment; little or no evidence of reflection on the ways in which human activity can affect the environment
LG2. Awareness of the cultural, economic and political forces that affect environmental policies	Environmental policy understood as an outcome of a complex mix of cultural, economic, and political forces	Environmental policy understood as an outcome of cultural, economic and/or political forces	Environmental policies independent of cultural, economic and political forces
LG3. An understanding of natural systems	Synthesizes and integrates existing knowledge of dynamic, nonlinear natural systems and applies understanding to investigate new problems.	Compare and contrast natural processes in more than one system and demonstrate understanding of the interconnectedness between systems	Identify and describe natural processes that govern movement of matter/molecules in the environment according to fundamental physical, chemical or biological process
LG4. Understanding of the impacts natural systems can have on the environment, human life, health and welfare	Postulate ahead to consider the possible ways that changing natural systems may shape human life, health and welfare.	Understand specific examples of impacts in a range of specific cases	May know some ways that natural systems impact human life, health and welfare.

Summary of Scores

LG 1. Recognition of the consequences of human activities on natural systems

Rubric Score	All	Male	Female	1-FY	2-SO	3-JR	4-SR
3	15%	22%	9%	9%	19%	47%	25%
2	41%	34%	47%	40%	48%	21%	54%
1	44%	44%	44%	51%	33%	32%	21%
Total	234	105	129	160	27	19	28
Mean	**1.7**	**1.8**	**1.7**	**1.6**	**1.9**	**2.2**	**2.0**

LG2. Awareness of the cultural, economic and political forces that affect environmental policies

Rubric Score	All	Male	Female	1-FY	2-SO	3-JR	4-SR
3	57%	54%	63%			41%	68%
2	36%	38%	31%			47%	28%
1	7%	8%	6%			12%	4%
Total	42	26	16			17	25
Mean	**2.5**	**2.5**	**2.6**			**2.3**	**2.6**

LG3. An understanding of natural systems

Rubric Score	All	Male	Female	1-FY	2-SO	3-JR	4-SR
3	37%	35%	38%	38%	30%	50%	
2	48%	47%	48%	51%	26%	50%	100%
1	16%	18%	14%	11%	44%		
Total	191	78	113	160	27	2	2
Mean	**2.2**	**2.2**	**2.2**	**2.3**	**1.9**	**2.5**	**2.0**

LG 4. Understanding of the impacts natural systems can have on the environment, human life, health and welfare

Rubric Score	All	Male	Female	1-FY	2-SO	3-JR	4-SR
3	19%	17%	21%	36%	17%		
2	63%	61%	64%	55%	42%		100%
1	19%	22%	14%	9%	42%		
Total	32	18	14	11	12		9
Mean	**2.0**	**1.9**	**2.1**	**2.3**	**1.8**		**2.0**