

Outcome	My Class: <u> </u> Principles of Biology II: BIO 102/104			
Knowledge Outcome: STEM Disciplines (link to full rubric)	Rubric Element	Specific Course Outcome	What student work will be used to assess achievement of the outcome? (Assessment)	How will this course provide practice for students to achieve the student outcomes? (Student practice)
<p><u>Full Coverage:</u> address any five elements.</p> <p><u>Partial Coverage:</u> address any three elements.</p>	<p>Identifies facts, vocabulary, definitions, terms, concepts, people</p>	<p>Identify the three major plant tissues and recall the cell types that comprise those tissues.</p>	<p>Laboratory assignments and exam questions (multiple choice)</p>	<p>Quizzes (multiple choice format), homework assignments, and in-class discussion</p>
	<p>Recognizes concepts or tools relevant for application to a task</p>	<p>Read a phylogeny (in order to interpret how chloroplasts and/or mitochondria evolved via endosymbiosis)</p>	<p>Exam question will include a phylogeny that students will be asked to read in order to interpret the endosymbiosis theory</p>	<p>Discussion questions in lecture, “practice reading phylogenies” exercise in laboratory sections</p>
	<p>Asks questions or frames hypotheses relevant to the task</p>	<p>Develop a hypothesis about seedling growth under light and dark conditions.</p>	<p>Laboratory report</p>	<p>Reading scientific literature, practice with hypothesis formation in lab and lecture, small group discussions</p>
	<p>Collects information relevant to address the task – e.g. data; literature sources</p>	<p>Measure seedling growth with different types of environmental conditions</p>	<p>Laboratory report- students will produce a bar graph showing average and standard error bars from their data</p>	<p>Practice graphing assignments in lab sections, discussion of similar scientific data in lecture, reading on environmental factors impacting plant growth</p>
	<p>Analyzes: <u>Applies</u> concepts to address the task</p>	<p>Use a phylogeny to identify an unknown species (based on sequence or morphology data)</p>	<p>Laboratory exercise in which students are provided with genetic data and asked to identify an unknown organism based on its relationship to genetic sequences from known taxa</p>	<p>Practice case study with genetic data for an unknown algal specimen that students will discuss in small groups in laboratory sections</p>