

Tools for Mapping Vision and Change Core Concepts and Competencies

Mapping the Extent of Addressing Vision and Change Core Competencies in an Individual Course

Course Number and Title: _____

The following are examples of core competencies applied to Biology practice. Indicate to what extent each of these practices are applied in this course. (0=not practiced, 3=practiced to a reasonable extent, 5=practiced in depth).

Core Competency (add activity or assignment below the topic)	Examples of Student Practice (add your own examples as appropriate to your learning goals)				
Ability to apply the process of science:	<i>Observational strategies</i>	<i>Hypothesis testing</i>	<i>Experimental design</i>	<i>Evaluation of experimental evidence</i>	<i>Developing problem-solving strategies</i>
	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
Ability to use quantitative reasoning:	<i>Developing and interpreting graphs</i>	<i>Applying statistical methods to diverse data</i>	<i>Mathematical modeling</i>	<i>Managing and analyzing large data sets</i>	
	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	
Ability to use modeling and simulation:	<i>Computational modeling of dynamic systems</i>	<i>Applying bioinformatics tools</i>	<i>Managing and analyzing large data sets</i>	<i>Incorporating stochasticity into biological models</i>	
	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	
Ability to tap into the interdisciplinary nature of science:	<i>Applying physical laws to biological dynamics</i>	<i>Chemistry of molecules and biological systems</i>	<i>Applying imaging technologies</i>		
	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5		
Ability to communicate and collaborate with other disciplines:	<i>Scientific writing</i>	<i>Explaining scientific concepts to different audiences</i>	<i>Teamwork</i>	<i>Collaborating across disciplines</i>	<i>Cross-cultural awareness</i>
	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5
Ability to understand the relationship between science and society:	<i>Evaluating the relevance of social contexts to biological problems</i>	<i>Developing biological applications to solve societal problems</i>	<i>Evaluating ethical implications of biological research</i>		
	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5		