

## Student Learning Outcomes Program Assessment Curriculum Map

Curriculum maps illustrate the link between the courses and other curricular requirements in a program to the overarching (program-level) learning outcomes by displaying the learning achievement expected of all students who will graduate from the program. Maps visually present where course syllabi align with program outcomes by indicating how students will be given the opportunity to achieve outcomes as they proceed through the curriculum, from introduction and practice of the essential knowledge, skills and abilities to mastery where the student's knowledge/skills/abilities are emphasized and applied at the highest level of critical thinking is expected from students. More information on mapping [here](#).

### Completing the map matrix:

- **Horizontally**, across the top of the grid: **List** all the courses and other program requirements that may not be associated with a course number (e.g., internships, service-learning, portfolios); display the curriculum developmentally/sequentially when possible.
- **Vertically**, down the side of the grid: **Write** each program-level student learning outcome. Recommend 5-7 outcomes for a typical undergrad or graduate curriculum.
- **Within the grid**: Use the Map Key below to indicate the degree to which an outcome is taught **and** practiced by students within a course (see Map Key: I-R-E). Note that not all courses emphasize all outcomes!  
**TIP**: Before assigning a letter, consider the goal of **key or critical** assignments and activities within courses\* and where and how students are asked to demonstrate their learning. Courses often scaffold and develop learning across several outcomes, but typically focus assignments/activities on specific outcome(s). Coding with I/R/E should create a curriculum map that indicates 1) where a course focuses on specific outcome(s), 2) the faculty expectations of student learning by the end of the course (e.g., "I" typically in 100/200-level courses, etc.), and 3) the best opportunities for assessment and gathering student work as evidence of learning. Use "\*" to identify the best assessable moments in the curriculum to guide planning for program assessment.

\*The map is an iterative document that should adjust as needed to reflect a growing and evolving curriculum withing an institution.

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Academic Program/College: <b>PhysicsBS/A+S</b>		Select: Cohort I_X_ Cohort II ___										Reporting Year: <b>2024</b>									
<p><b>Program Student Learning Outcomes:</b> Explicit statements of observable, measurable expectations that specify what a student should know or be able to do as a result of their participation in an academic program. Statements should be detailed and meaningful enough to ensure the assessment and results can guide decisions in program planning, improvement, pedagogy, and practice.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>Map Key</b>                      I = Outcome Introduced                      R = Outcome Reinforced                      E = Outcome Emphasized resulting in demonstration of “mastery” by student                      * = to indicate student work in a course</p> </div> <p><b>List Program Student Learning Outcomes:</b></p>	<p><b>Course Numbers/Program Requirements</b> Program requirements can also include internships, service learning, portfolios, comprehensive exams, seminars, and other curricular expectations that may not be associated with a specific course number.</p> <p><b>Enter Course Numbers/Program Requirements:</b></p> <p>% Not required for Physical Oceanography Majors</p> <p>&amp; Students take either PHY483 <i>and</i> 484 <i>or</i> PHY491 <i>or</i> PHY492</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>PHY203</th><th>PHY273</th><th>PHY204</th><th>PHY274</th><th>PHY205</th><th>PHY275</th><th>PHY306</th><th>PHY322</th><th>PHY331</th><th>PHY381</th><th>PHY382</th><th>PHY410</th><th>PHY420</th><th>PHY451</th><th>PHY452%</th><th>PHY455%</th><th>PHY483&amp;</th><th>PHY484&amp;</th><th>PHY491&amp;</th><th>PHY492&amp;</th> </tr> </thead> </table>	PHY203	PHY273	PHY204	PHY274	PHY205	PHY275	PHY306	PHY322	PHY331	PHY381	PHY382	PHY410	PHY420	PHY451	PHY452%	PHY455%	PHY483&	PHY484&	PHY491&	PHY492&
PHY203	PHY273	PHY204	PHY274	PHY205	PHY275	PHY306	PHY322	PHY331	PHY381	PHY382	PHY410	PHY420	PHY451	PHY452%	PHY455%	PHY483&	PHY484&	PHY491&	PHY492&		
#1	Apply classical and modern physics theories to solve quantitative physics problems.	I*		I		I	I	R	R	R	R	R	E	E	E	E	E	E	E	E	
#2	Demonstrate the ability to carry out physics experiments and provide quantitative data analysis and interpretation.		I		I		I				R/E	R/E									

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#3	Demonstrate the ability to carry out guided research in order to develop skills as an independent physics researcher.		I		I		I				R	R						E	E	E	E
#4	Present the results of physics experiments and research activities.						I				R	R						E	E	E	E
#5																					

(Form expands to accommodate program outcomes; add lines as necessary)