

CWU Student Learning Outcome Assessment Plan Preparation Form

Department Physics

Program Bachelor of Science

Student Learning Outcomes (performance, knowledge, attitudes)	Related Program/ Departmental Goals	Related College Goals	Related University Goals	Method(s) of Assessment (What is the assessment?)*	Who Assessed (Students from what courses – population)**	When Assessed (term, dates) ***	Standard of Mastery/ Criterion of Achievement (How good does performance have to be?)
<p><i>Content Knowledge</i></p> <p>1. Graduates demonstrate a comprehensive knowledge base of the major areas of physics and related disciplines.</p>	<p>Goal 1. Promote student learning.</p>			<p>Direct (Major Field Test with a comparison to their GPA in specific Physics courses).</p>	<p>Students enrolled in PHYS 489 - Ellensburg campus.</p>	<p>End-of-program with a comparison to their performance throughout the program (F/W/S)</p>	<p>Information is documented by the Department. Artifacts are assessed by the Department's Assessment Committee as either "Exceeds Standard", "Meets Standard" or "Fails Standard" (explained at the end of this document).</p> <p>Note: MFT "Introductory": PHYS 181 – 183, 317, 318, 342, 351, 363, 381, 382, 383. MFT "Advanced": PHYS 301, 331, 333, 334, 352, 361, 463, 474, 475.</p>
<p><i>Technical Skills</i></p> <p>2. Graduates perform experimental, computational and analytical techniques in solving physics-related problems.</p>	<p>Goal 1. Promote student learning.</p>			<p><u>Experimental</u> Direct (Practicum and Project)</p> <p><u>Computational</u> Direct (Project)</p>	<p><u>Experimental</u> Students enrolled in PHYS 331 and 333 - Ellensburg campus.</p> <p><u>Computational</u> Students enrolled in the computational course PHYS 361 -</p>	<p><u>Experimental</u> Middle-of-program/End-of-program (F/W/S)</p> <p><u>Computational</u> Middle-of-program/End-of-program</p>	<p>Information is taken from student portfolios. Artifacts are assessed by the Department's Assessment Committee as either "Exceeds Standard", "Meets Standard" or "Fails Standard". Feedback from the course instructor, including the grading rubric, will also be used.</p>

<p><i>Intellectual Skills</i></p> <p>3. Graduates demonstrate critical thinking skills.</p>	<p>Goal 1. Promote student learning.</p> <p>and</p> <p>Goal 2. Faculty and students engage in scholarly activities.</p>		<p>Direct (Research Project)</p>	<p>Ellensburg campus.</p> <p>Students enrolled in PHYS 495 - Ellensburg campus.</p>	<p>program (F/W/S)</p> <p>End-of-program (F/W/S)</p>	<p>Information is documented by the student and entered into their Portfolio. The artifact is assessed by the Department's Assessment Committee as either "Exceeds Standard", "Meets Standard" or "Fails Standard". Feedback from the research advisor, including the grading rubric, will also be used.</p>
<p><i>Communication Skills</i></p> <p>4. Graduates demonstrate an ability to communicate effectively.</p>	<p>Goal 1. Promote student learning.</p>		<p><u>Oral Communication</u></p> <p>Direct (Presentation)</p> <p><u>Written Communication</u></p> <p>Direct (Formal Report)</p>	<p><u>Oral Communication</u></p> <p>Students enrolled in PHYS 495 - Ellensburg campus.</p> <p><u>Written Communication</u></p> <p>Students enrolled in PHYS 363 - Ellensburg campus.</p>	<p><u>Oral Communication</u></p> <p>End-of-program (F/W/S)</p> <p><u>Written Communication</u></p> <p>Middle-of-program (F/W/S)</p>	<p>Information is taken from student portfolios. Artifacts are assessed by the Department's Assessment Committee as either "Exceeds Standard", "Meets Standard" or "Fails Standard". Feedback from the course instructor/research advisor, including the grading rubric, will also be used. For the Written Communication, faculty use the Washington State Discipline-based writing rubric.</p>
<p><i>Civic Engagement</i></p> <p>5. Graduates demonstrate responsible stewardship to the community..</p>	<p>Goal 1. Promote student learning.</p>		<p>Direct (Presentation or project)</p>	<p>Students volunteer to assist in an outreach program sponsored by the Department. If it is not performed by senior year, then it becomes a requirement for PHYS 489.</p>	<p>Middle-of-program/End-of-program (F/W/S)</p>	<p>Information is taken from student portfolios. Artifacts are assessed by the Department's Assessment Committee as either "Exceeds Standard", "Meets Standard" or "Fails Standard". Feedback from the outreach advisor will also be used.</p>

<i>Life-long Learning</i>	Goal 1. Promote student learning.			Indirect (Survey of Alumni)	Five year alumni survey - Ellensburg campus.	Post-program (S)	Information is documented by the Department and assessed by the Department's Assessment Committee as either "Exceeds Standard", "Meets Standard" or "Fails Standard".
6. Graduates demonstrate an ability to learn new material independently from a variety of resources, to be used throughout their life.				Indirect (Survey of Graduates) Direct (Annotated Bibliography that is part of a report/paper).	Seniors applying for graduation - Ellensburg campus. Students enrolled in PHYS 495 or upper division physics course - Ellensburg campus.	End-of-program (F/W/S) Middle-of-program/End-of-program (F/W/S)	

The Physics Department's Assessment Committee sets and assesses the criteria for the standards discussed relative to each Department/Program goal.