

CWU Department/Program Assessment Plan Preparation Form  
 Department: Physics Program Bachelor of Science (105 credits) and Bachelor of Arts (83 credits)

Department/Program Goals	Related College Goals	Related University Goals	Method(s) of Assessment (What is the assessment?)	Who/What Assessed (population, item)	When Assessed (term, dates)	Criterion of Achievement (Expectation of how good things should be?)
1. Promote student learning.	Goals I & II: Maintain and strengthen an outstanding academic and student life at all sites.	Goals I & II: Maintain and strengthen an outstanding academic and student life at all sites.  Goal V: Achieve regional and national prominence for the university.	Record curriculum improvements resulting from 1. student performance on the Major Field Test, as compared with the Physics Major GPA and 2. student assessment of major program.  Review syllabi and student learning objectives at department's annual assessment day at the end of the spring quarter.	Structure of major programs  Course syllabi (which include learning objectives)	Review by program committees at least biennially.  PHYS 489 includes MFT and student assessment of major program.  Annual department assessment day.	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).  Review of syllabi and learning objectives will be assessed by the Department's Assessment Committee using content recommendations from National Physics Societies.
2. Faculty and students engage in scholarly activities.	Goals I & II: Maintain and strengthen an outstanding academic and student life at all sites.	Goals I & II: Maintain and strengthen an outstanding academic and student life at all sites.  Goal V: Achieve regional and national prominence for the university.	Tabulate faculty supervised student participation in local symposia, such as SOURCE, or non-peer reviewed national or regional venues.  Tabulate faculty and/or faculty mentored student peer-reviewed manuscripts, conference proceedings and presentations. This includes participation at the national and regional/state level.	Physics department faculty and student records.	Academic year annual summary	Information is taken from student portfolios and faculty annual activity reports. Artifacts are assessed by the Department's Assessment Committee as either "Exceeds Standard", "Meets Standard" or "Fails Standard".
3. Serve as a center for physics and	Goal V: Build partnerships with private,	Goal IV: Build mutually beneficial partnerships with the	Tabulate faculty and student service activities to the University, Professional	Physics department faculty and student records.	Academic year annual summary	Information is taken from student portfolios. Artifacts are assessed by the Department's

<p>educational services to the University, Professional Societies and local communities.</p>	<p>professional, academic, government, and community-based organizations.</p> <p>Goal VI: Strengthen the college's contributions to the field of education.</p>	<p>public sector, industry, professional groups, institutions, and the communities surrounding our campuses.</p> <p>Goal V: Achieve regional and national prominence for the university.</p>	<p>Societies and the local community. For outreach programs, include audience description (who was the target audience, number in attendance, duration, etc.).</p>			<p>Assessment Committee as either "Exceeds Standard", "Meets Standard" or "Fails Standard".</p>
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**The Physics Department's Assessment Committee will set the criteria for the standards discussed relative to each Department/Program goal. This will be done at an upcoming Assessment Committee meeting.**

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>Direct (GPA for first-year Physics and Mathematics sequence).</p>	<p>Students enrolled in PHYS 489 - Ellensburg campus.</p> <p>MATH 172, 173, and PHYS 181 – 183 (including labs) - Ellensburg campus (or appropriate transfer institution).</p>	<p>End-of-program with a comparison to their performance throughout the program (F/W/S)</p> <p>Middle-of-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.</p> <p>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 and physics-related problems.</p>	<p>Goal 1. Promote student learning.</p>			<p><u>Experimental</u></p> <p>Direct (Practicum and Project)</p> <p><u>Computational</u></p> <p>Direct (Project)</p>	<p><u>Experimental</u></p> <p>Students enrolled in PHYS 331 and 333 - Ellensburg campus.</p> <p><u>Computational</u></p> <p>Students enrolled in the computational course PHYS 361 - Ellensburg campus.</p>	<p><u>Experimental</u></p> <p>Middle-of-program/End-of-program (F/W/S)</p> <p><u>Computational</u></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 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>Students enrolled in PHYS 495 - Ellensburg campus.</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 scientific ideas 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 civic engagement.</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>

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

Department Physics

Program Bachelor of Arts

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>Direct (GPA for first-year Physics and Mathematics sequence).</p>	<p>Students enrolled in PHYS 489 - Ellensburg campus.</p> <p>MATH 172, 173, and PHYS 181 – 183 (including labs) - Ellensburg campus (or appropriate transfer institution).</p>	<p>End-of-program with a comparison to their performance throughout the program (F/W/S)</p> <p>Middle-of-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,</p> <p>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 and physics-related problems.</p>	<p>Goal 1. Promote student learning.</p>			<p><u>Experimental</u></p> <p>Direct (Practicum and Project)</p> <p><u>Computational</u></p> <p>Direct (Project)</p>	<p><u>Experimental</u></p> <p>Students enrolled in PHYS 331 and 333 - Ellensburg campus.</p> <p><u>Computational</u></p> <p>Students enrolled in the computational course PHYS 361 - Ellensburg campus.</p>	<p><u>Experimental</u></p> <p>Middle-of-program/End-of-program (F/W/S)</p> <p><u>Computational</u></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 course instructor, including the grading rubric, will also be used.</p>
<p><i>Intellectual Skills</i></p>	<p>Goal 1. Promote</p>			<p>Direct (Research</p>	<p>Students enrolled in PHYS 495 -</p>	<p>End-of-program</p>	<p>Information is documented by the student and entered into their</p>

3. Graduates demonstrate critical thinking skills.	student learning. and Goal 2. Faculty and students engage in scholarly activities.			Project)	Ellensburg campus.	(F/W/S)	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.
<i>Communication Skills</i> 4. Graduates demonstrate an ability to communicate scientific ideas effectively.	Goal 1. Promote student learning.			<u>Oral Communication</u> Direct (Presentation)  <u>Written Communication</u> Direct (Formal Report)	<u>Oral Communication</u> Students enrolled in PHYS 495 or PHYS 492 - Ellensburg campus.  <u>Written Communication</u> Students enrolled in PHYS 363 - Ellensburg campus.	<u>Oral Communication</u> End-of-program (F/W/S)  <u>Written Communication</u> Middle-of-program (F/W/S)	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.
<i>Civic Engagement</i> 5. Graduates demonstrate civic engagement.	Goal 1. Promote student learning.			Direct (Presentation or project)	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.	Middle-of-program/End-of-program (F/W/S)	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.
<i>Life-long Learning</i> 6. Graduates demonstrate an ability to learn new material independently from a variety of	Goal 1. Promote student learning.			Indirect (Survey of Alumni)  Indirect (Survey of	Five year alumni survey - Ellensburg campus.  Seniors applying for graduation -	Post-program (S)  End-of-program (F/W/S)	Information is documented by the Department and assessed by the Department's Assessment Committee as either "Exceeds Standard", "Meets Standard" or "Fails Standard".

resources, to be used throughout their life.				Graduates)  Direct (Annotated Bibliography that is part of a report/paper).	Ellensburg campus.  Students enrolled in PHYS 495 or upper division physics course - Ellensburg campus.	Middle-of-program/End-of-program (F/W/S)	
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