

Minor in Physics and B.S. in Secondary Education 9-12

Students can either double major in Physics and Secondary Education OR major in Secondary Education and minor in Physics and take a significant number of additional courses in the sciences to achieve this certification at William Jewell. Because the double major option is such a long program of study this advising sheet reflects the Secondary Education major and Physics minor that will lead to certification. Please consult your advisor if you have questions. Student is responsible for monitoring progress toward admission to teacher education program and completion of degree and certification requirements including completion of a minimum of 124 credits (including transfer credit consistent with college policies).

	Course Name	Credits	Semester Completed	Grade
Secondary (9-12) Ed. Requirements	EDU 175	Culturally Responsive Teaching (2)		
	EDU 206	Teaching Diverse Learners (4)		
	EDU 213	Alternative Clinical Fieldwork in Schools II (1) - <i>Optional</i>		
	EDU 214	Clinical Fieldwork in Schools I (1)		
	EDU 220	High Leverage Teaching Strategies (4)		
	EDU 275	Instructional Design & Assessment (4)		
	EDU 280	Disciplinary Literacy & Methods of Instruction (5)		
	EDU 308	Literacy Interventions in the Secondary Classroom (4)		
	EDU 311	Clinical Fieldwork in Schools II (1)		
	EDU 315	Clinical Fieldwork in Schools III (1)		
	EDU 401	Reflective Student Teaching Seminar (4)		
	EDU 420	Student Teaching in Secondary School I (6)		
	EDU 421	Student Teaching in Secondary School II (6)		
EDU 501	Intro to Differentiated Instruction (4)			
46 Credits		0		

	Course Name	Credits	Semester Completed	Grade
Core Curriculum Requirements	CTI 100	The Responsible Self (4)		
	CTI 102	Written Communication (4)		
	CTI 109	Calculus I (4)		
	CTI 150	Identity & Society (2)		
	CTI XXX*	Diversity & Inclusion US (COM/WST 381, CTI 200, CTI/WST 221, CTI 238, CTI 239, CTI 240, CTI 284 - STRONGLY SUGGESTED, CTI 286, HIS 202, ENG 255, ENG/WST 260) (0-4)		
	CTI XXX*	Diversity & Inclusion Global (GEO 304, CTI 215, PHI 399, CTI 216, CTI 219, COM 358, CTI 287, HIS 310, FRE 315, POL 230, SPA 315, SPA 324) (0-4)		
	CTI 2XX	201-220 Culture & Traditions Course (4) - if not already met by a D&I course		
	CTI 258	Astronomy & Cosmology - required for CTI as the S&T and for certification (4)		
	CTI 2XX	225-249 Sacred and Secular Course (4) - if not already met by a D&I course		
	CTI 4XX	400-499 Capstone Course (4)		
	30-38 Credits		0	

*These courses can double count in other CTI or major requirements.

	Course Name	Credits	Semester Completed	Grade
Physics Requirements	Note: To insure completion of the degree is possible in 4 years, the student completes the Physics minor (reflected here with additional courses for certification).*			
	PHY XXX	PHY 111 College Physics I + Lab (5) OR PHY 213 General Physics I + Lab (5) - if PHY 213 is substituted then CTI 109 is required		
	PHY XXX	PHY 112 College Physics II + Lab (5) OR PHY 214 General Physics II + Lab (5) - if PHY 214 is substituted then CTI 109 is required		
	12 credits from following: must include PHY 316 & MAT 200 for certification; also one lab for minor.			
	PHY 316	Modern Physics (4) (required for certification)		
	MAT 200	Calculus II (required for PHY 316)		
	PHY 215	Introduction to the Physics Major (1)		
	PHY 306	Applied Electronics (4) + Lab (1)		
	PHY 321	Intermediate Physics Lab (1)		
	PHY 322	Optics (3) + Lab (1)		
	PHY 351	Research Experience (1)		
	PHY 352	Research Experience (1)		
	PHY 415	Electricity and Magnetism (4)		
	PHY 443	Classical Mechanics (4)		
	PHY 444	Quantum Mechanics (4)		
	PHY 490	Physics of Sustainability (4)		
	Additional Science Requirements for Certification			
PHI 357	PHI 357 Contemporary Philosophy of Science (4)			
BIO 133	Evolution & Ecology + Lab (5)			
CHE 1XX	CHE 113 Fundamentals of General Organic & Biological Chemistry (5) OR CHE 121 General Chem I + Lab or equivalent (5)			
36 Credits		0		

	Course Name	Credits	Semester Completed	Grade
Electives				
TOTAL		0		

* The courses above meet the MO certification requirements for Physics and a Physics minor at WJC. It might be possible to do a Physics major with Secondary Education to get certified in a 4 year program BUT that would require completion of the foreign language requirement AND other Physics coursework. If you desire to do a full Physics major tell your advisor ASAP. Doing a full Physics major and Secondary Education may or may not extend a degree program to more than 4 years.