



PHYSICS, GRADES 9-12

EDUCATOR PREPARATION PROGRAM NAME TRUMAN STATE UNIVERSITY	EDUCATOR PREPARATION PROGRAM CODE 122122
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INSTRUCTIONS

Please complete Educator Preparation Program (EPP) Name & EPP Code above.

Certification Requirements:

- **Course Number** – List the course number(s) for the course(s) or groups of competencies that align with the specific section of the requirements. It is possible to have more than one course or group listed.
- **Course Title** – List the course title(s) for the course(s) or groups of competencies that align with the specific section of the requirements. It is possible to have more than one course or group listed.
- **Semester Hours** – List the number of semester hours for each specific section. It is possible to use decimals (to the nearest tenth) to indicate partial use of a course to meet a requirement. The total number of semester hours must meet or exceed the minimum required number of semester hours.

Email the completed cover sheet, curriculum matrix, and advising/program information to DESE.MoSPETransition@dese.mo.gov on or before the date established in the Transition Plan.

QUESTIONS: Contact Educator Preparation, 573-751-1668 or DESE.MoSPETransition@dese.mo.gov

A. Professional Requirements (Minimum of 26 semester hours)

1. Content Planning and Delivery

	Course Number	Course Title	Semester Hours
a. Curriculum and Instructional Planning	ED 393 STEM 608 G ED 609 G ED 632 G	Clinical Experiences in Teaching Management of Instruction Internship Instructional Strategies	3 3
b. Instructional Strategies and Techniques in Content Area Specialty	STEM 608 G ED 603 G	Management of Instruction Content Academic Literacy	3
c. Assessment, Student Data, and Data-Based Decision-Making	ED 601 G ED 632 G	Measurement and Evaluation Research/Applied Educational Psychology	3 4
d. Strategies for Content Literacy	ED 603 G	Content Academic Literacy	
e. Critical Thinking and Problem Solving	ED 389 ED 393 ENG 190 STEM 608 G	Foundations of Education Clinical Experiences in Teaching Writing as Critical Thinking Management of Instruction	3
f. English Language Learning	ED 603 G	Content Academic Literacy	

2. Individual Student Needs

	Course Number	Course Title	Semester Hours
a. Psychological Development of the Child and Adolescent	ED 593 ED 605 G	Psychological Foundations of Education Psychology of Exceptional Children	3
b. Psychology/Education of the Exceptional Child	ED 605 G	Psychology of Exceptional Children	3
c. Differentiated Learning	ED 609 G ED 632 G ED 393 ED 593 STEM 608 G	Internship Research/Applied Education Psychology Clinical Experiences in Teaching Psychological Foundations of Education Management of Instruction	
d. Classroom Management	ED 393 STEM 608 G ED 593	Clinical Experiences in Teaching Management of Instruction Psychological Foundations of Education	
e. Cultural Diversity	ED 388 ED 389 ED 393 ED 593 ED 603 G STEM 608 G	Exploratory Field Experiences Foundations of Education Clinical Experiences in Teaching Psychological Foundations of Education Content Academic Literacy Management of Instruction	

f. Educational Psychology	ED 593 ED 632 G	Psychological Foundations of Education Research/Applied Education Psychology	
3. Schools and the Teaching Profession			
	Course Number	Course Title	Semester Hours
a. Consultation and Collaboration	ED 393 STEM 608 G	Clinical Experiences in Teaching Management of Instruction	
b. Legal/Ethical Aspects of Teaching	ED 389 ED 593	Foundations of Education Psychological Foundations of Education	3

4. Secondary Literacy (Minimum of six semester hours)			
	Course Number	Course Title	Semester Hours
a. Reading and Writing in the Content Area	ED 603 G	Content Academic Literacy	
b. Instructional Interventions for Students with Reading Deficits	ED 624 G	Instructional Interventions for Secondary Students with Reading Deficiencies	3

Professional Requirements - Total Semester Hours 31

B. Field and Clinical Experiences (Minimum of ten semester hours)			
	Course Number	Course Title	Semester Hours
1. Early Field Experiences (Minimum of one semester hour with a minimum of 30 clock hours)	ED 388	Exploratory Field Experiences	1
2. Mid-Level Field Experiences (Minimum of one semester hour with a minimum of 45 clock hours)	ED 394 STEM 608 G	Experiences in Classroom Teaching Management of Instruction	1
3. Culminating Clinical Experiences (Minimum of eight semester hours with a minimum of 12 weeks in one placement)	ED 609 G	Internship	8-17
Field and Clinical Experiences - Total Semester Hours			10-17

C. Physics Content Knowledge Area (Minimum of 35 semester hours)			
	Course Number	Course Title	Semester Hours
1. History/Philosophy of Science and Technology (three semester hours)	HIST 393 <u>or</u> HIST 394 And NASC 501 G	History of Science I History of Science II Philosophy of Science	3 3
2. Physics Coursework – Minimum of 20 semester hours which must include:			
a. Mechanics	PHYS 195	Physics w/Calculus I	5
b. Electricity and Magnetism	PHYS 196	Physics w/Calculus II	5
c. Heat, Sound, and Light	PHYS 275	Vibrations and Waves	3
d. Atomic or Modern Physics	PHYS 250 PHYS 251	Modern Physics I Modern Physics II	3 3
e. Physics Electives	PHYS 310 PHYS 320 PHYS 346 PHYS 382 PHYS 386 PHYS 387 PHYS 388 PHYS 482 PHYS 486 PHYS 518 (G) PHYS 580 (G)	Intermediate Laboratory Electronics Observational Astronomy with a Lab Mathematical Physics Classical Mechanics Statics Advanced Laboratory Electricity and Magnetism Thermodynamics & Statistical Mechanisms Advanced Topics Quantum Mechanics	2 3 4 3 (required) 3 (required) 3 3 (required) 3 required BS 3 required BS 1-5 required BS 3 required BS 9 hours required for BA (select 9 hours from the list) 10-14 hours required for BS
3. Additional Science Coursework – Minimum of 12 semester hours which must include:			
a. Chemistry	CHEM 129 <u>or</u> CHEM 130	Introduction to Chemical Principles <u>or</u> Chemical Principles I	3 <u>or</u> 5

b. Biology	BIOL 100 <u>or</u> BIOL 107	Biology Introduction to Biology I	4
c. Earth Science	PHYS131 <u>or</u> PHYS 245 <u>or</u> NASC 140	Introduction to Astronomy <u>or</u> Meteorology <u>or</u> Physical Geology	4
d. Environmental Science	ENVS 200 <u>or</u> ENVS 210 <u>or</u> BIOL 301 <u>or</u> BIOL 363	Introduction to Environmental Science <u>or</u> Environmental Science <u>or</u> Introduction to Ecology <u>or</u> Human Ecology	3-4
Content Knowledge Area - Total Semester Hours			48-56

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