

PHYSICS/EDUCATION

Physics Program

Physics is devoted to the discovery and exploration of the most basic physical laws governing our material universe. The physicist attempts to express these laws in their most elegant mathematical form, so that they can be applied to predict the behavior of all forms of matter and energy, in physical systems that range from the subatomic levels of quarks, gluons, nucleons, and atoms, all the way out to the astrophysical levels of planets, stars, black holes, galaxies, and larger scale structures of the universe.

After receiving a solid foundation in the basic physics governing the behavior of matter, energy, and radiation, the undergraduate physics major is able to choose among many advanced level courses to satisfy their particular interests in various fields of modern physics.

The Bachelor of Science, B.S. degree is for students desiring a strong background in Physics, but wants to combine it with a broad liberal arts education. This program, coupled with the professional education courses requires a close working relationship between the student and their advisor to develop a curriculum that addresses their career plans.

Departmental Contact

Dr. Allan Pringle
573-341-4781
pringle@mst.edu

Teacher Education Program

The Teacher Education Program is a structured education strategy integrating classroom studies with learning through productive work experience in a field related to a student's academic or career goals. It provides progressive experiences in integrating theory and practice.

Students interested in teaching Physics may enter the Teacher Education Program during their freshman year. The purpose is to satisfy the continuing need for well-qualified teachers in schools in Missouri and across the nation.

A student may earn a Bachelors of Science, B.S. Degree in Physics from Missouri S&T and certification to teach in the schools in Missouri. Many surrounding states have cooperative agreements with Missouri with respect to certification requirements. In most other states students may obtain a temporary certificate that allows them to teach until the requirements of that particular state are completed. All of the course work required in this program is available on the Missouri S&T campus and student teaching and clinical experiences are arranged with Rolla area public schools within 30 miles of campus.

To qualify for certification, students must have a minimum ACT score of 22 as well as a 265 C-BASE score in each area, including the composite, a passing PRAXIS score and a 2.5 or greater GPA. Each student must also submit a portfolio, complete a background check and fingerprinting, and complete the courses listed on the reserve side of this fact sheet.

Education Contact

Dr. EvaLee Lasater

CURRICULUM

General Education: (46hrs)

Communication Skills	9
English 20-Exposition and Argument.....	3
English 60-Writing and Research.....	3
Speech 85-Principles of Speech.....	3

Humanities..... 9

Art, Music or Theater (Choose one from the following).....	3
Art 80- Art Appreciation	
Music 50- Music Appreciation	
Theatre 90- Theatre Appreciation	
Philosophy 5-Introduction to Philosophy	3
Literature-	3
Humanities (300 level).....	3

Social Science.....9

History (Choose one from the following).....	3
History 175-American History to 1877	
History 176-American History since 1877	
Political Science 90-American Government.....	3
Psychology 50-General Psychology.....	3

Natural Science.....8

Physics 6&8-Environmental Physics & Lab.....	4
Biology 110-General Biology	3

Mathematics.....15-17

Math 8-Calculus with Analytic Geometry I.....	5
Math 21-Calculus with Analytic Geometry II.....	5
Math 22-Calculus with Analytic Geometry III.....	5
Math 204- Elementary Differential Equations.....	3

Professional Requirements: (26 hrs)

Education 40-Perspective in Education.....	2
Education 174-School Organization & Admin for Elementary and Secondary Teachers.....	2
Education 216-Teaching Reading in Content Area.....	3
Education 251-Historical Foundations of Am Education.....	3
Education 280-Teaching Methods and Skills in the Content Area.....	6
Education 298-Student Teaching Seminar.....	1
Psychology 155-Educational Psychology.....	3
Psychology 208-Psychology & Ed. Dev.....	3
Psychology 354-Psychology of the Exceptional Child.....	3

Clinical Experience:16

Education 104-Teacher Field Experience.....	2
Education 164-Aiding Elementary, Middle, and Secondary Schools.....	2
Education 299-Student Teaching.....	12

Degree/Certification Requirements: (50-51 hrs)

Chemistry 1&2-General Chemistry & Lab.....	5
Chemistry 3&4-General Chemistry & Lab.....	4
Physics 1-Introduction to Physics.....	1
Physics 21&22-General Physics I & Lab.....	5
Physics 24- Engineering Physics II & Lab.....	4
Physics 25&26- General Physics II & Lab.....	5
Physics 207-Modern Physics I.....	3
Physics 208-Introduction to Theoretical Physics.....	3
Physics 212-Intermediate Physics Laboratory.....	3
Physics 221-Electricity and Magnetism I.....	3
Physics 307-Modern Physics II.....	3
Physics 308-Physical Mechanics.....	3
Physics 311-Thermal Physics.....	3
Physics 321-Electricity and Magnetism II.....	3
Physics 322-Advanced Physics Laboratory I.....	3
Physics 332-Advanced Physics Laboratory II.....	3
Physics 361-Introduction to Quantum Mechanics.....	3
History 275-History of Science.....	3

Total: 141-145 hours

Title II Report 2006-2007

The federal government this year required we report our Title II results for the 2006-2007 year. The report was submitted in April 2008. Missouri University of Science and Technology has a 100% passing rate on the PRAXIS for our completers. The state percent was 98%. A completer is one who has fulfilled all institutions guidelines to be recommended to the state for his/her teaching certificate. We have 100% of the completers teaching with 82% teaching in Missouri.