Master of Science in Physics

Through its Master of Science (MS) degree program, the physics group in the Department of Mathematics, Statistics and Physics helps students prepare for doctoral work in physics or for STEM related jobs in research and industry.

The MS degree program is flexible so students can design their studies to meet their educational or career goals. Students may combine the study of physics with interest in such fields as astronomy, engineering, geology, computer science, mathematics and education.

Admission Requirements
Admission to the MS program in physics requires the completion of 24 credit hours of undergraduate physics, including 3 hours of mechanics and 3 hours of electricity and magnetism, and meeting the Graduate School admission requirements.

To be considered for admission, please submit your application, application fee, and official transcripts from all colleges or universities you have previously attended to the Graduate School. International applicants must also submit official, acceptable TOEFL, IELTS, or PTE-Academic scores (minimum 79 on the internet-based TOEFL, overall band score of 6.5 on the IELTS, or 58 on the PTE-Academic), as well as an acceptable certification of financial support form. Visit the Graduate School website for more details at www.wichita.edu/gradschool.

Degree Requirements
The MS degree in physics requires the successful completion of a Plan of Study approved by the student’s advisor and the director of physics/department chairperson.

Two options are available: a 36 hour non-thesis program, and a 30 hour program that includes a research project written as a thesis.

Students in either option must take at least 12 hours in courses numbered 800 or above. The department recommends that each Plan of Study include PHYS 821, Classical Mechanics; PHYS 831, Electricity and Magnetism; PHYS 871, Statistical Mechanics; and PHYS 811, Quantum Mechanics. A typical Plan of Study may consist of up to 12 hours of course work taken outside the department.

Other Program Options
Program options are available which provide the possibility of combining the study of physics with interests in fields such as astronomy, engineering, mathematics, geology, computer science, chemistry, biological sciences, and education.

Examination
During the first semester, students are given a diagnostic entrance examination. An oral defense of the thesis is required.
Research Opportunities
Students entering graduate studies in Physics at Wichita State University have access to many cutting edge research opportunities that will prepare them for further graduate study, or STEM careers in related fields.

Experimental Condensed Matter:
- Magnetic Materials and Nanoparticles.
- Faculty
  - Hussein H. Hamdeh, Professor.
    - PhD, Northeastern University, 1986.

Experimental High Energy Particle Physics:
- Neutrino properties and interactions.
- Faculty
  - Nickolas Solomey, Professor.
    - PhD, University of Geneva, 1992.
  - Holger Meyer, Associate Professor.
    - PhD, Virginia Tech, 2002.
  - Mathew Muether, Assistant Professor.
    - PhD, University of Illinois, 2010.

Theoretical High Energy Particle Physics:
- Higgs boson collider phenomenology.
- Faculty
  - Terrance Figy, Assistant Professor.
    - PhD, University of Wisconsin-Madison, 2006.

Computational Astrophysics:
- Stellar opacities and evolution.
- Faculty
  - Jason Ferguson, Professor.
    - Ph.D., University of Kentucky, 1997.

Quantum Computing and Information Theory:
- Quantum control.
- Faculty
  - Elizabeth Behrman, Professor.
    - Ph.D., University of Illinois, 1985.

Support and Assistantships
Graduate teaching assistantships are available which offer full tuition support and a living stipend. International students seeking a teaching assistantship must have received a score of 23 or higher on the speaking portion of the TOEFL (iBT), or a score of 50 or above on the SPEAK test OR achieve a score of 7.0 or higher on the Speaking portion of the IELTS exam.

Research assistantships may also be available. Please contact the physics graduate coordinator for additional details.

For more information
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