



WESTERN
ILLINOIS
UNIVERSITY

INTEGRATED BACCALAUREATE AND MASTER'S DEGREE IN PHYSICS

Higher Values in Higher Education

Academic Excellence • Educational Opportunity
Personal Growth • Social Responsibility

The Integrated Baccalaureate and Master's degree program (IBMP) in Physics provides an opportunity for academically strong undergraduate Physics majors with a commitment to pursuing a career in physics or applied physics research to complete both the bachelor's and master's degree programs in Physics in five years.



Admission Requirements

- The applicant should apply to the WIU School of Graduate Studies for admission to the integrated degree program in Physics.
- The applicant must have a cumulative grade point average of 3.25 or higher and a major GPA of 3.25 or higher.
- The applicant should request three letters of recommendation from faculty.
- The applicant should submit a statement of purpose and career goals.
- Official transcripts will be obtained from Sherman Hall by Graduate Office staff.

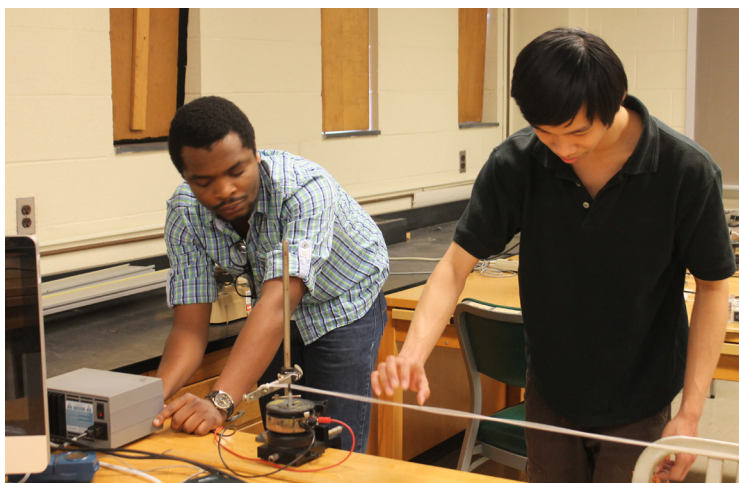
Degree Requirements

The Integrated Baccalaureate and Master's degree program (IBMP) in Physics offers interested and serious students one of the following two tracks:

1. The *Experimental Track* will focus on developing the students' skills in experimental and/or in applied physics to a greater degree. Students will be trained in the use of state-of-the-art equipment in a modern physics research lab and the concomitant skills involved in data collection, analysis, and presentation in a meaningful fashion.
2. The *Theoretical / Computational Track* will focus on developing a greater degree of skill in mastering theoretical and/or computational aspects of modern physics. Students will be taught the most advanced techniques as they apply to the analysis of physical systems, emphasizing both analytical and computational approaches.

Both tracks will include significant portions of research work carried out by students under the guidance of Physics faculty mentors. This work will culminate in the completion of a master's thesis in the last semester of the program. Hence, the IBMP in Physics will be available only through the master's thesis option plan. The thesis should demonstrate the student's mastery of the basic areas of physics as well as the completion of a significant research project.

Students will be required to complete 120 semester hours (SH) for the Bachelor of Science (BS) degree. Nine of these hours may be taken as "bridge" courses, which will also count toward the 34 SH required for the master's degree. Courses taken for bridge credit will require students to complete extra projects and demonstrate a higher level of understanding of class materials. A student must be a senior and accepted into the IBMP in Physics before bridge courses may be taken.



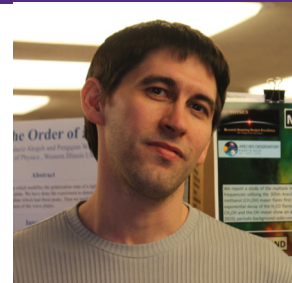
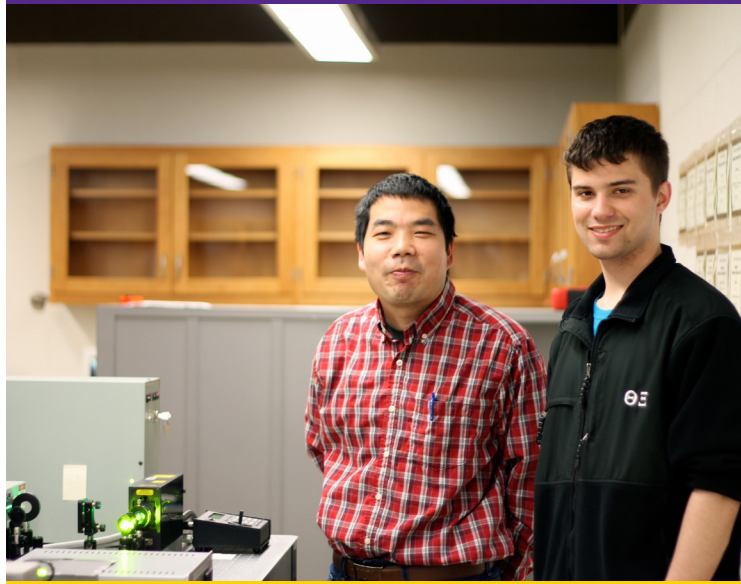
Career Opportunities

There are a number of opportunities available, including jobs in academia and industry as well as opportunities in pursuing doctoral studies at various institutions nationwide.

“Being part of the Physics department here at WIU is akin to being part of a family. The small class sizes allow individualized attention, and the professors want you to succeed. There are many different great opportunities to conduct research under the tutelage of a faculty member.”

—Daniel Halbe
BS, December 2015

WIU.EDU/PHYSICS



Daniel Halbe

Up to 9 SH of the following bridge undergraduate/graduate courses can be counted toward the 34 SH requirement:

- PHYS 410G Computational Methods (3)
- PHYS 421G Electricity and Magnetism II (3)
- PHYS 431G Introductory Quantum Mechanics II (3)
- PHYS 461G Astrophysics I (3)
- PHYS 462G Astrophysics II (3)
- PHYS 468G Mathematical Methods of Physics II (3)
- PHYS 477G Special Problems in Experimental and Theoretical Physics (3)

Contact Information

For admissions process and general program information, contact the School of Graduate Studies, Western Illinois University, 1 University Circle, Macomb, IL 61455, (309) 298-1806, (877) WIU GRAD toll-free, Grad-Office@wiu.edu, wiu.edu/grad.

For specific program questions, contact the Department of Physics, Western Illinois University, 1 University Circle, Macomb, IL 61455, (309) 298-1596, physics@wiu.edu, wiu.edu/physics.

Integrated Degree Course Requirements

Students must complete a minimum of 120 SH of credits to meet the BS degree requirements, including the following:

University General Education Requirements 55 SH

Core courses 17 SH

PHYS 211, 212, 213, 214, 490

Additional Courses

Special Courses

PHYS 311, 354, 420, 427, 428, 430, 461, 462, 470,

and any one of the following: PHYS 410, 421, 431 24 SH

Any minor 16-18 SH

Other

MATH 133, 134, 231, 333 15 SH

CHEM 201, 202 8 SH

Students must complete 34 SH of graduate credit in the thesis option of the master's degree program.

Core Courses

PHYS 510 Classical Mechanics I 3 SH

PHYS 520 Electromagnetic Theory I 3 SH

PHYS 530 Quantum Mechanics I 3 SH

Thesis Plan

PHYS 571 Introduction to Thesis 1 SH

PHYS 601 Thesis/Thesis Research 3 SH

PHYS 577 Special Problems in Physics 4 SH

Directed electives (PHYS 577 not to exceed 4 SH and includes up to 9 SH of bridge courses) 17 SH

Total program 34 SH