



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.*



Macomb Campus

## Admission Requirements

- The applicant should apply to the School of Graduate Studies for admission to an integrated degree program in Physics.
- The applicant must have a cumulative GPA 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 track will focus on developing a greater degree of skill in mastering theoretical physics. Students will be taught the most advanced mathematical techniques as they apply to the analysis of physical systems, emphasizing both analytical and numerical 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.

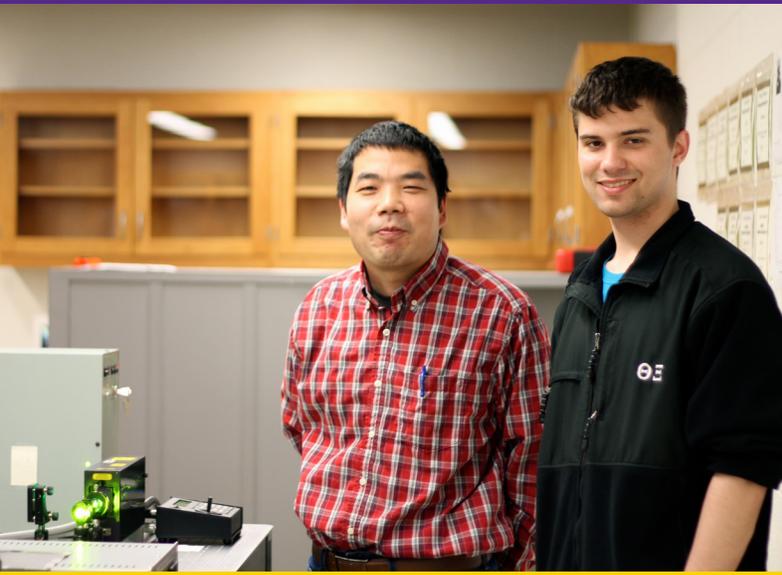


*“I chose to enter the integrated bachelor’s/master’s program to further my education. The program will enable me to start working on my PhD a year earlier. It is a great program! All of the faculty are knowledgeable, want you to succeed, and work like crazy to help you reach your goals.”*

— Jacob Brown

*MS Physics, May 2011*

## WIU.EDU/PHYSICS



Jacob Brown

### Career Opportunities

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

### 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 credits 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**

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), or 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, [Grad-Office@wiu.edu](mailto:Grad-Office@wiu.edu), [wiu.edu/grad](http://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](mailto:physics@wiu.edu), [wiu.edu/physics](http://wiu.edu/physics).