

Master of Science in Physics

UW Physics Department

UW Professional & Continuing Education

Boeing Information Session

UW MS-Physics Program

Boeing Information Session Agenda

- Welcome & Introductions
- The MS-Physics (MSP) degree program at UW
- MSP Admission and Degree Requirements
- Partnership between Physics and Professional & Continuing Education
- Questions & Discussion

UW Representatives

- Professor Jeffrey Wilkes, *UW Department of Physics*
- Lane Gossard and Brian Cox, *UW Professional & Continuing Education*
- Special thanks to Wes Will, *Senior Manager, Applied Physics, and the Boeing Company*

UW Physics Department

- Offers BS, MS, and PhD programs
- Faculty
 - All courses taught by full-time Physics faculty (regular and research faculty)
 - UW Physics faculty recognized internationally as leaders in theoretical and experimental research

MS-Physics Program (MSP)

- Started in 1970s
 - Boeing scientists and engineers were the main source of students
- Now a very diverse student population:
 - Employees of regional high-tech firms
 - High school and community college instructors
 - Military personnel
- Designed for working professionals
 - All evening classes
 - Majority of students enroll in one course per quarter
 - Typically 2-3 years to complete degree program

Designed as a Terminal MS Degree

- Not a pathway to the UW PhD program
 - However, MSP alumni have gone on to PhD programs here and elsewhere
- Accommodates the growing demand for Professional Science Master's (PSMs)

Motivations & Results

- Student motivations
 - Professional and career advancement
 - Seek qualifications for more interesting assignments
 - Career re-direction
 - Simple intellectual interest
- Graduates succeed!
 - Promotions with current employer
 - Secure new jobs
 - Define new careers in R&D or teaching

MSP Admission Requirements

- BS degree in any physical science or field of engineering, mathematics, or computer science
 - Not limited to applicants who majored in Physics as undergraduates
 - Not intended necessarily for recent BS graduates—a majority of MSP students received their BS degree 10-20 years ago

Admission Requirements

- Reasonable grades in relevant courses
 - B (3.0) grade average in basic science courses or equivalent engineering courses
- Statement of purpose
 - Your reasons to join the MSP
 - How the MSP will advance your career goals
- GRE exam is not required (or considered)

Not sure that you are ready?

- Start as a Graduate Non-Matriculated (GNM) student (minimal requirements to start)
 - Take core courses to evaluate the program
 - Option to apply later for admission to the MS degree program
 - Up to 12 GNM credits can be applied to the MSP
- GNM is an option to expand your knowledge of physics without seeking a graduate degree

Degree Requirements

- 1 - Complete three of the four core courses (4 credits each)
 - PHYS 543: Electromagnetic Theory
 - PHYS 441: Quantum Physics
 - PHYS 544: Applications of Electromagnetic Theory
 - PHYS 541: Applications of Quantum Physics
- 2 - Complete at least 18 credits in graded courses
 - MSP offers one core and one elective course per quarter
- 3 - Complete a final independent study project
 - Submit project report (not a formal MS thesis)
 - Oral exam on your independent study topic
- 4 - Accumulate at least 36 credits (courses plus independent study)

Electives recently offered

- Electronics for Physics Research
- Contemporary Optics
- Numerical Methods for Physics & Data Analysis
- Physics of Lasers
- Application of Computers to Physical Measurement
- Radiation and Radiation Detectors
- Condensed Matter Physics

Independent Study Project

- Work with a research group in the department, or define your own project
 - MS students typically work with faculty and PhD students to help with ongoing projects
 - Some do job-related research under faculty supervision
 - May work with researchers in other departments

Independent Study Project Implementation

- Select a Physics faculty member to be your supervisor/ adviser
- Schedule and enroll in independent study courses
- Prepare written report to summarize project and findings
 - Typically 15-20 pp and formatted as a technical report
 - Oral examination:
 - Presentation of project and findings (typically 30 min.)
 - Questions posed by panel of two physics faculty
 - Submit final written report

UW Physics Department Research Groups

- See MSP program website for links to Research Groups to identify faculty members who may be mentors for independent study projects:

<http://www.phys.washington.edu/academics/emsp/>

Astrophysics & Gravitational Physics

Particle Astrophysics, Axions and Dark Matter

Atomic Physics and Quantum Computing

Biophysics

Condensed Matter Experiment

Condensed Matter Theory

Nuclear Theory

Experimental Nuclear Physics

Theoretical Particle Physics

Experimental Particle Physics

Physics Education Group

MSP Administered through UW Professional & Continuing Education

- Upon successful completion, you are awarded the MS in Physics by the UW Graduate School
- MSP degree program is administered by UW Professional & Continuing Education:
 - The MSP is now one of more than 40 graduate degree programs intended primarily for working professionals
 - Course registration is handled by UW Professional & Continuing Education.

Admissions

- To gain admission to the *MS-Physics Program*, submit your application electronically to the UW Graduate School
<http://www.grad.washington.edu/admissions/faq/index.shtml>
- Applications are welcome at any time
 - Apply for admission in the next academic quarter, or to start later
- Admission decisions are made as applications are received
 - Quarterly deadlines listed on website are the latest date we can ensure consideration in time for the following quarter, but post-deadline applications are welcome.

Course Enrollment through Boeing's Learning Together Program (LTP)

- Boeing employee completes
 - ***Tuition Voucher*** from Learning Together Program (LTP)
 - ***Course Registration Form*** from UW Professional & Continuing Education
- Then submits the two forms to the Registration Office of Professional & Continuing Education (via e-mail, fax, US Mail, or in person), thus completing the course enrollment process
- Note: In addition to tuition payment, you receive a \$150 textbook allowance

Contact Information

For general information on program, requirements, applications and admissions:

- **Jen Lehner**, Graduate Student Advisor
206-543-2488
emsp@u.washington.edu

For questions about course schedule, registration and payment options:

- **Michele Colyn**, Program Coordinator
206-543-9975
mcolyn@pce.uw.edu

For academic issues, or questions on course offerings, prerequisites, the independent study component, and qualifications:

- **Professor Jeffrey Wilkes**, Faculty Advisor
emsp@u.washington.edu

Questions ?

- Program Structure
- Course of Study
- Admission Requirements
- Degree Requirements
- Independent Study Project
- Registration, course and program fees
- Option to start as a Graduate Non-matriculated (GNM) student