

# Physics

*What is special about the physics program at UMW?*



*One goal of the liberal arts experience is to instill a sense of wonder – of unending curiosity – not only for your particular field of study, but also for all areas of study that may impact your success in life, both professionally and personally. The physics program at UMW is designed to prepare students like you to learn how to process*

*discoveries you might make and to help you develop the skills needed to analyze those discoveries. In our program the message that comes through very clearly is that physics is for everyone. So, if you have a strong interest in physics and a fair amount of perseverance, you can expect your goals to be met, whatever they are. The physics faculty cares about your education and ready to help.*

*All physics students participate in individual research with our dedicated faculty during the academic calendar year. The research project can be used to satisfy part of the requirement toward graduating with departmental honors and/or the experiential learning general education requirement. Additionally, the University of Mary Washington Summer Science Institute offers Physics Majors an opportunity to participate in a summer-long fully funded research project supervised by our dedicated faculty. The institute runs concurrently with the summer sessions (mid-May through mid-July). Room, board, and a stipend are provided to participating students. In all cases, students may be offered an opportunity to present their results at local, state and national conferences. Students are encouraged to participate in individual study, research or internships, all of which provide opportunities for learning outside the typical classroom structure. The projects are quite diverse and may be experimental or theoretical in nature. In most cases, the students receive individual attention from their faculty advisor and internship mentor. These activities are invaluable and often help students establish career interests and graduate schools. A large number of our students go onto graduate schools. But also, our students have undertaken internships with General Dynamics, Lockheed Martin, US Naval Research Laboratory, NASA, and the Naval Surface Warfare Center. Often times, these internships turned into careers for our students in these industries.*

## Department of Physics

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*Dr. Hai Nguyen, Chair.*

New students interested in physics should select **PHYS 105** and **MATH 121** in their first semester, and **PHYS 106** and **MATH 122** in the second semester. Physics 105/106 sequence is intended for scientists and engineers. Below please find some examples of first semester schedules. All students are encouraged to actively engage with Society of Physics Students (SPS) and Sigma Pi Sigma ( $\Sigma\Pi\Sigma$ ).

Example 1:

Course (credits)	Requirement(s) Met
1. PHYS 105 - University Physics with Lab (4)	Major, NS
2. THEA 111 - Intro to Theatre (3)	ALPA
3. MATH 121** - Calculus I (4)	Major Prerequisite, QR
4. SPAN 101** - Beginning Spanish (3)	Language
5. FSEM 100F8 – Physics for Future Presidents and World Leaders (3)	FSEM

Example 2:

Course (credits)	Requirement(s) Met
1. PHYS 105 - University Physics with Lab (4)	Major, NS
2. PSYC 100 - General Psychology (3)	HES
3. MATH 121** - Calculus I (4)	Major Prerequisite, QR
4. LING 101B - Intro Linguistics (3)	HES
5. MUPR 201 - Class Voice I (1)	Elective

Example 3: Athletes for varsity sports must register for the 400-level course of the sport. Practice times for varsity sports can vary, but generally speaking, athletes should allow for enough time to get to and from practice on weekdays from 3 - 6 p.m. Please check with the individual coach for your sport to verify specific practice times each semester.

Course (credits)	Requirement(s) Met
1. PHYS 105 - University Physics with Lab (4)	Major, NS
2. MATH 121** - Calculus I (4)	Major Prerequisite, QR
3. FSEM 100B8 - Ethics and Literature (3)	FSEM
4. PSCI 101A - Intro to Political Science (3)	HES
5. PHYD 400 - Intercollegiate Baseball - Men (1)	Elective

*\*\*This particular course is in a discipline that allows students with demonstrated competence upon admission to UMW (such as AP/IB credit, dual enrollment, etc.) to begin courses at a higher level. Talk to your Student Success Coordinator if you believe you should start at a higher level.*