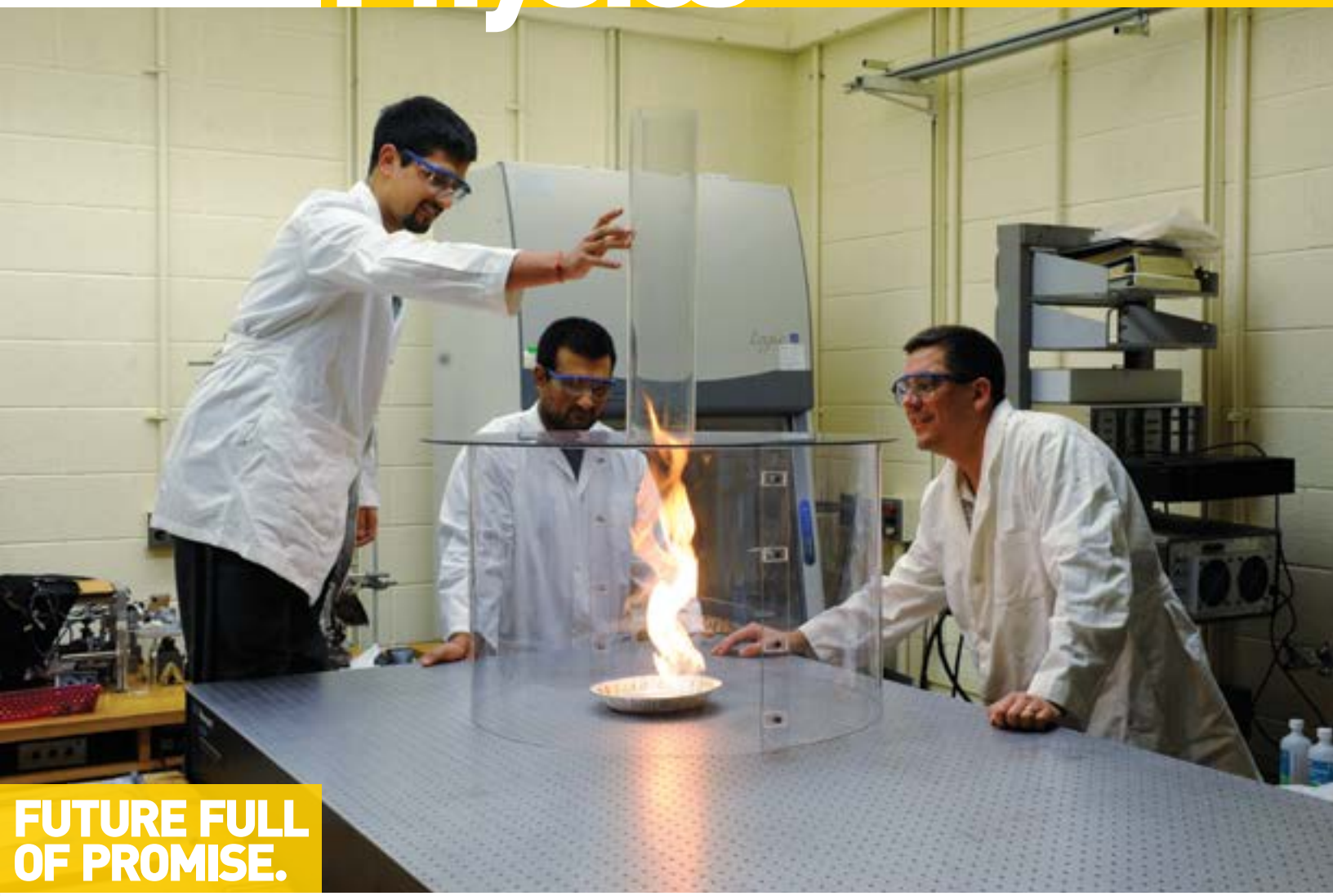
EXPERIENCE MAP
Physics



FUTURE FULL OF PROMISE.

University of Windsor

- PHYSICS CO-OP AVAILABLE
- PHYSICS WITH THESIS CO-OP AVAILABLE
- PHYSICS (PHYSICS AND HIGH TECHNOLOGY) CO-OP AVAILABLE
- PHYSICS (PHYSICS AND HIGH TECHNOLOGY) WITH THESIS CO-OP AVAILABLE
- PHYSICS (MEDICAL PHYSICS) CO-OP AVAILABLE
- PHYSICS (MEDICAL PHYSICS) WITH THESIS CO-OP AVAILABLE
- INTERDISCIPLINARY ARTS AND SCIENCE

Skills and Knowledge of Physics Graduates

PROGRAM HIGHLIGHTS

Physics – Learn how the universe works—from the fundamental forces of nature to their effects on matter and the environment around us. This program will ready you for leadership positions in both academic and industrial research in the Canadian high-technology industry. It may be taken with or without a thesis option.

Physics and High Technology – This program is for you if you're interested in applying your physics training to the high-tech needs of society or if you're fascinated by science and technology but don't necessarily want to pursue a career as a scientist. It may be taken with or without a thesis option.

Medical Physics – Learn about the application of physics' theories and technologies to the diagnosis and treatment of diseases in the human body, particularly cancer. This will prepare you for further studies in medical physics, a career as a certified medical physicist, or medical school.

Interdisciplinary Arts and Science – If you're a highly motivated student who wants knowledge and skills that will familiarize you with the humanities, social sciences and natural sciences, this elite program is for you. Design your program to match your interests and career aspirations. From here, consider a master's program, professional school (medicine, optometry, dentistry, occupational therapy, naturopathic medicine, law, MBA, pharmacy), or teaching (with additional studies).

FUNCTIONAL KNOWLEDGE

- Understanding the various properties, states, structures, and behaviours of matter to a high level
- Performing quantitative analyses involving mathematics and applied science and physics
- Applying computer analysis methods and algorithms
- Developing complex theoretical models to analyze specific behaviours and interactions
- Operating advanced scientific laboratory equipment and instruments
- Planning, conducting, recording, and presenting scientific research to a high degree of competency

Degree Title / Program	Minimum Average	Admission Requirements
PHYSICS	75%	ENG. ADV. FUNC and PHYS. required. CALC. VEC. strongly recommended. CHEM. recommended. 70% average in all attempted Science and Math courses, excluding DATA M.

- **Courses of study specific to each program**
- **Activities and experiences that complement coursework (Outstanding Scholars, peer mentoring, VIP)**
- **Activities falling outside of the scope of set curriculum (Part-time job, clubs, volunteering, athletics)**

Build your Skills and Experience

Your UWindsor experience is more than attending classes. It is a combination of academics, co-curricular activities, and extracurricular involvement. By making the most of all three elements of your university experience, you will maximize your opportunities to build your skills, broaden your personal network, and clarify your long term academic and career goals.

Career Planning Guide

Intentional career planning will help you prepare for your next step after graduation. It is a fluid, dynamic, and continuous process, meaning you can move on or return to an earlier stage at any time. You can even work through simultaneous cycles, like one for your long-term dream job and another for a summer job.

Explore Opportunities Using This Guide

Explore a selection of opportunities recommended for students in your program. This chart shows some of your many options – you don't have to do everything on it or limit yourself to it. Engage in opportunities from each of the three categories to set yourself up for success:

Academics
- *Your coursework*

Experience
- *Ways to get involved*

Career
- *Plan ahead for what's next*

HIP High-Impact Practice (HIP)

A HIP is an enriching educational experience that can be life-changing and often includes learning outside of the classroom while encouraging meaningful interaction and collaboration, such as:

- Co-op, internship or field experiences
- Research with faculty
- Culminating senior experience
- Capstone courses
- Service-learning
- Learning communities
- Study abroad

	First Year	Middle Years	Final Year
Academics	• Take required courses including Introduction to Physics I and II and General Chemistry I and II • Review degree course requirements for all years of study and mesh them with professional or graduate school aspirations • Participate in our **PASS** program during **Welcome Week** to be coached on the skills necessary to be successful as a Faculty of Science student • Visit the **Physics Resource Centre** regarding any questions about your courses • Meet with an academic advisor in the Department of Physics • Receive peer mentorship from an upper-year **MySci** advisor • Attend **Fall Introduction to the Department**, as well as **Meet the Professor Night**	• Take required courses and check in with academic advisor to make sure you are on the right path • Look into completing an undergraduate research project in final year HIP • Consider completing a physics degree with either medical physics or high technology • Attend a weekly graduate seminar of interest • Seek out courses that offer experiential learning HIP • Continue taking courses required as preparation for professional schools • Study for and take professional school admission tests of interest • Consider completing degree in combination with a Computer Science, Chemistry, or Mathematics Minor or a Double Major	• Meet with an academic advisor to go over graduation requirements • Complete all required courses for your degree • Apply to graduate through **MyUWindsor Portal** • Undertake a year-long undergraduate research thesis with faculty member HIP • Take a specialized course such as **Introduction to Medical Physics** and/or **Introduction to Medical Imaging** • *Apply* your knowledge through a field work course to optimize your senior experience HIP
Experience	• Begin the process of becoming a **LEAD Medallion Scholar** and participate in credit and volunteer activities HIP • Explore co-op options and consider applying in fall of second year HIP • Apply for a co-curricular experience such as **VIP** HIP • Be *Engaged* by volunteering in a lab to help with research for professors and graduate students HIP • *Discover* research opportunities as part of the **Outstanding Scholars** program HIP • Join the **USci Network** to take part in collaborative and integrative science experiences • Join a club like the **Physics Club, Science Society** or **Students Offering Support** • Participate in the **Bystander Initiative** workshop to gain skills that will help you be an effective and supportive ally to prevent sexual assault on campus	• *Apply* your knowledge through a teaching assistant position HIP • Participate in the **UWill Discover** undergraduate research conference HIP • Apply to co-op in fall of second year HIP • Complete co-op work term I and II HIP • Be *Engaged* through service learning opportunities with **Let's Talk Science** and **Science Rendezvous** HIP • Expand your skills by taking on a summer, part-time or volunteer position • Gain valuable *Leadership* skills through roles within a club orsociety • Gain a **Global Perspective of Science (GPS)** through an international exchange or by studying abroad HIP	• Join a professional association such as the **Canadian Association of Physicists** or **American Physical Society** • Complete co-op work term III in the field of Physics HIP • Conduct research with faculty member HIP • Become a tutor for **Students Offering Support (SOS)** HIP • Become a **MySci** advisor to provide academic support and mentorship for first-year students • *Apply* your knowledge for a summer research assistant position within a faculty member's lab HIP • Complete **LEAD Medallion Scholars** in two areas for Bronze, three areas for Silver, or four areas for Gold in accordance with *Leadership, Engagement, Application, Discover* HIP
Career	• Create lists of things that you enjoy, areas in which you excel, and your skills • Meet with a career advisor in **Career Development and Experiential Learning (CDEL)** for help developing a plan for your future years • Consider a career assessment workshop or appointment to help you identify possible career paths • Get involved with a part-time job, volunteer opportunity, campus group, or research assistantship • Attend **CDEL** workshops to learn how to find a summer or part-time job and write a resumé and cover letter • Analyze the requirements for graduate or professional schools	• Research career fields and occupations with the help of a **CDEL** career advisor • Explore opportunities and meet employers through job fairs and employer networking events • Explore further educational opportunities by attending the **Graduate and Professional Schools Fair** and researching admission requirements for programs you are interested in • Attend **CDEL's Using Social Media to Leverage Your Career** workshop • Create a **LinkedIn** profile and have it critiqued • If you are considering applying to graduate or professional school, be aware of early application deadlines	• Meet with **CDEL** to prepare application documents like a resumé, cover letter, CV, or personal statement for jobs and education programs you are applying to • Attend an **Interview Skills Workshop** and **Job Search Tips Workshop** • Use **InterviewStream** to practice your interview skills online • Set up an in-person mock interview with a career advisor for professional school or job applications • Meet employers at the annual job fair in January • Compose a portfolio of relevant academic and work experience

Physics

Life After Graduation

100%

Employment rate of graduates 2 years following degree completion *(OUGS Physical Sciences, 2014)*

"The courses and extracurricular service learning opportunities that I had access to at the University of Windsor gave me the experience and skills I needed to work in national and international collaborations immediately upon graduation."

Melissa Mathers - BSc (Honours) in Physics with Minor in Computer Science and Math [2015]

COMMON INDUSTRIES FOR PHYSICS GRADUATES

- **Academia**
- **Education:** Curriculum design, teaching
- **Electronics/electrical/aerospace manufacturing**
- **Energy industry/utilities**
- **Government:** Research and policy development
- **Industry:** Consultation, product development/testing
- **Meteorology/climatology**
- **Telecommunications**
- **Physical science industries**

CAREER TRACKS*

Actuary
Astronomer
Audiologist
CAD technician
Chemical physicist
Computer programmer
Dentist
Doctor
Engineer
Entrepreneur
Financial analyst
Geophysicist
Hydrologist
Lab technician
Lawyer
Medical physicist
Meteorologist
Oceanographer
Optometrist
Professor
Radiation therapist
Research co-ordinator
Research scientist
Robotics technician
Science journalist
Software developer
Teacher
X-Ray technician

* Additional education and/or training required for some of the above careers.

CAREER-READINESS COMPETENCIES

Critical Thinking and Problem Solving
Using strategic and creative thinking to make decisions and evaluate solutions

Teamwork and Collaboration
Working as a productive member of a group and collaborating with others to achieve set goals

Professionalism and Work Ethic
Demonstrating personal management practices and a high level of integrity and ethical behaviour

Communication
Appropriate and effective articulation of ideas and information to a range of audiences

Campus Resources

- Research scholarships and bursaries through the **Student Awards and Financial Aid Office**
- Visit **Leddy Library** and the **Writing Support Desk** for help with academic assignments
- Explore mentorship opportunities through the **Connecting4Success (C4S)** and **Bounce Back** programs
- Improve study skills through the **Skills to Enhance Personal Success (STEPS)** program
- Get advice and support about your academic status by making an appointment with **Academic Advising**
- Seek out assistance with academic accommodation from **Student Accessibility Services**
- Discover ways to get involved on campus through the **Student Success and Leadership Centre**
- Look into the **Ignite: Work Study** program for on-campus employment opportunities
- Apply to **VIP** to get involved in a community service learning experience
- Get assistance developing your career plan and job search skills from **Career Development and Experiential Learning**
- Consult with the **EPICentre** if you are interested in starting your own business
- Broaden your cultural awareness through the **International Student Centre** and **Student Exchange Office**
- Find support for Indigenous learners and broaden your understanding of Indigenous culture by visiting **Turtle Island**
- Tend to your health and wellness with support from **Student Health Services** and **Lancer Recreation**
- Receive confidential mental health counselling delivered by trained professionals at the **Student Counselling Centre**
- Seek personal support or learn more about sexual violence education through the **Sexual Misconduct Response and Prevention Office**

Student Recruitment
Phone: 519-973-7014
Toll-Free: 1-800-864-2860
Email: info@uwindsor.ca

Department of Physics
Phone: 519-253-3000, Ext. 2647
Email: physics@uwindsor.ca

Career Development and Experiential Learning
Phone: 519-253-3000, Ext. 3895
Email: careerservices@uwindsor.ca
experience.uwindsor.ca

University of Windsor

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