

Careers by Major - Physics



This document serves as a starting point for your career research. Each Careers by Major page provides lots of ideas on various career areas, as well as how to gain related skills and experience. Useful resources and job samples are also provided. Visit us in the Career Centre to find out more about career areas that interest you.

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Sample Occupations and Jobs

Below is a sample of the many types of occupations and jobs pursued by graduates of this program.

Sample Occupations

Note: This is not an exhaustive list. Detailed career profiles are available in the Career Centre. Some occupations require further education and experience.

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|-----------------------------------|--------------------------------------|
| Acoustic emissions technician | Military engineer* |
| Acoustical physics | Molecular physicist |
| Aerospace engineer* | Museum exhibits planner |
| Air traffic controller* | Nanotechnologist |
| Ariel survey flight supervisor | Nuclear medicine technologist* |
| Artificial intelligence developer | Nuclear physicist |
| Astronomer* | Operations research analyst* |
| Astronaut* | Optical physicist/technician |
| Astrophysicist | Particle physicist |
| Biomedical engineer* | Photodynamic therapist |
| Biophysicist | Photon scientist |
| Business Systems Analyst* | Physicist* |
| Chemical physicist | Planetarium guide/lecturer |
| Chemical technologist | Plasma deposition scientist |
| Chemist* | Professor* |
| Climatologist* | Project manager |
| Computer software engineer* | PR specialist* (space agen./manuf) |
| Condensed matter research | Quality controller* |
| Cosmologist | Radar indicator inspector |
| Database administrator | Radiation therapist* |
| Electrical equipment specialist | Radiographer |
| Electrical engineer* | Radiologist* |
| Environmental scientist | Researcher* |
| Equipment designer | Robotics technician |
| Exploration geophysicist | Science journalist |
| Flight management analyst | Scientist* |
| Geophysicist | Scientific photogr./Photojournalist* |
| Health physicist | Seismologist |
| Hydrologist* | Space vision technologist |
| Instrument designer | Sound engineer |
| Investment analyst | Special librarian: science |
| Laboratory technician | System support representative |
| Logistics specialist* | Technical sales representative* |
| Market research analyst* | Technical writer* |
| Materials/metallurgical engin.* | Telescope engineer |
| Mathematician* | Ultrasound technician |
| Meteorologist* | X-Ray technologist |

* View these titles at Career Cruising, available on CLN (cln.utoronto.ca) under the Resources tab.

Sample Job Listings

Below is a sample of positions that have been promoted within the Career Centre. To access current postings, login to CLN at www.cln.utoronto.ca and click on Jobs.

- Physics Teacher/Tutor, Le's Academy
- Mathematician, Cryptanalyst and Data Scientist, Govt. of Canada
- Physics Content Creator, Nerdstudy
- Quantitative Analyst Intern, The D. E. Shaw Group
- R&D Scientist - Numerical Modeling of Semiconductor Devices, Lumerical Solutions
- Physics Lab Assistant, Dept. of Chemical & Physical Sciences, UTM
- Plastics Sales Associate, Nexeo Solutions
- Innovation Leadership Program - Project Mechanical Engineer, Lutron Electronics Co
- Architect, Greenland Group Canada
- Researcher-Programmer, Astronomy and Space Science, Ontario Science Centre
- Technical Rep. - Water & Energy Management, Klenzoid Canada
- Energy Optimization and Management Junior Engineer, Hatch
- Construction Project Coordinator, Urbacon
- Sustainability Program Research Student, Institute for Management and Innovation, UTM
- Senior Robotics Technician, Prodomax Automation Ltd.

Sample Areas of Employment

- Space and aerospace industry, airports
- Educational institutions
- Communications technology industry
- Energy development companies e.g. wind, fusion
- Environmental and pollution control organizations
- Governments, military
- Hospitals and medical centres
- Information technology industry
- Laboratories, research centres
- Libraries and Museums
- Manufacturing companies, petrochemical companies
- Observatories, planetariums, national and provincial parks
- Newspaper and magazine companies

Program-Related Skills

Academic courses in this program provide opportunities to develop the following types of skills. Make a career counselling or an employment strategy appointment to discuss how you can demonstrate these skills to employers.

- **Technical:** conduct research in a lab using state-of-the-art technology and advanced instrumentation to validate numerical computation.
- **Written & oral communication:** explain complex concepts and theories to others; clearly explain scientific research; and write reports.
- **Research:** define a problem; establish hypotheses; apply and integrate fundamental scientific principles; gather scientific data; and review scientific literature.
- **Problem-solving:** see relationships among factors; analyze data; and interpret observations.

Explore Careers & Build Networks

Career Exploration 101

Take our 15 minute online module available at utm.utoronto.ca/careers/career-planning/career-exploration and attend the Career Exploration Part 2 in-person workshop read about how you can gain access to UTM's career exploration programs:

- Extern Job Shadowing
- In The Field

Informational Interviews

Informational interviews are a great way to connect with professionals in a career area of interest and gain valuable insights about a career, company, or industry that would otherwise be difficult to find in books or online. Check out our tip sheet to learn more.

Alumni Profiles

Check out our Alumni Profiles page with submissions from UTM grads to find out how their experiences have affected their career direction.

Events

Attending career panels, networking events, employer info sessions, and career fairs is a great way to meet professionals and learn more about careers, companies, and industries. Login to CLN and click on Events & Workshops to see what's coming up.

Talk to Professors

Connecting with your professors can be a great way to explore the different paths a major can lead you to, as well as learn about possible opportunities for research, volunteering, or becoming a TA. Drop by during their office hours or request an appointment.

Student Organizations

Join a student club or an academic society at UTM to meet like-minded people, explore your interests, and gain valuable skills. To view a list of current clubs and societies, visit the Centre for Student Engagement online. Some organizations you may consider are:

- Erindale Society of Chemical & Physical Sciences
- Mathematical and Computational Sciences Society

LinkedIn

Create a LinkedIn profile to connect with professionals in various fields, explore the career paths of UTM alumni, research employers, apply for specific positions, and more. Need help? Come to the Career Centre to book a LinkedIn profile critique.

Professional Associations

There are many benefits of becoming a member of association(s), such as developing a network of contacts, learning about industry trends, accessing industry-related job postings, and stating your affiliation on your resume. Some associations related to this major are:

- Canadian Association of Physicists (CAP)
- Institute of Physics (IOP)
- Canadian Organization of Medical Physicists (COMP)

Get Experience

Get some experience and exposure to the industry while being a student. This will increase your chances of finding a job after graduation, while helping you decide what area might be most suitable for you.

Crack the Hidden Job Market

Networking is an essential element of job search today, as most jobs are not advertised. While you should still apply for positions you find online, building relationships with professionals is a proven way to access the "hidden job market" with some of the most desirable opportunities.

Attend the "Learn to Network" workshop to discover proven techniques to effectively introduce yourself and make contacts.

On-Campus

On-Campus Opportunities Booklet

Check out the On-Campus Opportunities booklet on www.utm.utoronto.ca/careers/on-campus-opportunities to view a list of some of the ways you can get valuable experience on campus.

Work Study Positions

The work study program provides eligible students with an opportunity to work on campus during the academic year and gain experience. Many departments use this program to hire UTM students during the Fall/Winter and Summer terms.

Research Opportunity Program (ROP)

UTM's Research Opportunity Program (ROP) allows undergraduate students to gain valuable research experience and earn a course credit by participating in a faculty member's research project. Courses are held during Summer and Fall/Winter terms.

Part Time and Volunteer Positions

- Attend the annual Get Experience Fair
- Check out our binder with detailed information on volunteer opportunities; available in the Career Centre
- Learn about the Co-Curricular Record (CCR), which can help you find opportunities beyond the classroom and have your skills and experiences captured on an official document; go to www.ccr.utoronto.ca to find out how you can get involved

Student Organizations

Join a student club or an academic society at UTM to meet like-minded people, explore your interests, and gain valuable skills. To view a list of current clubs and societies, visit the Centre for Student Engagement at www.utm.utoronto.ca/student-life/student-organizations.

Off-Campus

Internships, Summer, Part Time and Volunteer Positions

- Check out our binders with detailed information on internships and volunteer opportunities; available in the Career Centre
- Login to Career Learning Network (CLN) and click on Jobs to access current postings advertised to UofT students
- Attend the annual Get Hired: Summer and Full-Time Jobs Fair
- Consider taking an academic internship course through your department
- Check out Government of Ontario - Job Programs for Youth Summer Employment Programs' web page
- Review our Internships, Summer Employment Programs, and Summer Job Search tip sheets at utm.utoronto.ca/careers/tip-sheets

Full Time Positions

- Login to CLN and click on Jobs to access current postings advertised to graduating students and recent UofT grads. Note: You must attend the "Now That I'm Graduating, What's Next?" workshop to gain access to these postings.
- Attend the annual Get Hired: Summer and Full-Time Jobs Fair
- Check out our list of industry-specific job boards on www.utm.utoronto.ca/careers/jobs/jobs-resources-links

Useful Resources & Next Steps

Appointments

- Attend a one-on-one appointment with a career counsellor or an employment strategist to discuss what career options might work for you and determine a job search plan. Contact the Career Centre for more information.
- Meet with an academic or departmental advisor, who can guide you in achieving academic success. Contact the Office of the Registrar or your department for more information.

Additional Web Resources

- Physics.org - Careers in Physics
- Prospects - Career Options in Physics
- Society of Physics Students - Careers Resources
- Wolfram Research - Physics
- Career Counselling for Chemical and Physical Sciences Students
- Canada's Top 100 Employers for Young People

Career Resource Library

The Career Resource Library contains information about a wide range of occupations in all industries, resume and cover letter resources, effective work search methods, graduate/professional school preparation guides, and more. Located in DV 3094.

Career Planning by Year

Look for our Career Planning by Year web page on www.utoronto.ca/careers/career-planning for ideas of important career related activities for each year.

Questions?

Visit the UTM Career Centre located in DV 3094, call 905-828-5451, or visit www.utm.utoronto.ca/careers.

Notes
