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.

Last updated: September 2017.

Sample Careers / Jobs

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

Sample Career Titles

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

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

- Extern Job Shadowing
- In The Field
- Informational Interviews

**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 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 the fields, explore the career paths of UTM alumni, research employers, apply for specific positions, and more. Need help? Come into 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 Physics (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

Experience 101 Handout

Check out the Experience 101 handout 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.

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

- 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

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.
Useful Resources & Next Steps

Appointments

- Attend a one-on-one appointment with a career counselor 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 Centre Library Resources

The Career Centre 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