



CAREERS IN PHYSIOLOGY

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OVERVIEW

Have you ever asked yourself what career options are available for students with a physiology degree? Who usually employs physiology graduates? How can I develop relevant work experience? Do I need to go to professional or graduate school to find a job? What skills do I need to become a working professional upon graduation? Can I possibly do something else with my B.Sc. aside from a science related career?

If you answered yes to any of the questions above, then you are in luck, because answers to common questions such as these (as well as others) can be found throughout this package!

As a science student you might be trying to discover how your background in physiology can be applied to a full-time career. Perhaps you have considered going to medical school, becoming a pharmacist, or maybe you simply haven't thought about all of this until now. On the other hand, you may have already decided that you would like to pursue a career in physiology, but you require additional information to begin your career planning and work search. In any case, if you fall into one of these scenarios or both, don't worry! This package will certainly provide you with the information you need to begin exploring various career options which complement your goals, interest, skills, qualities, experiences, and values.

What is Physiology?

Physiology is the study of life, in particular how cells, tissues, and organisms function. The study of physiology constantly tries to make connections between the functions of single cells and the interactions humans have with the environment. Essentially, physiology provides the basic information for understanding the normal function of the body, explains how normal function may be altered in pathological conditions, and provides insight for developing strategies to manage and treat various diseases and conditions. Physiology is concerned with answering questions such as what limits human athletics in performance, how does a person's gender affect their body's response to physiological/environmental stress, or why does a person's genetic inheritance predispose them to certain diseases in life?

Physiology can be studied at many sub disciplines including animal physiology, comparative physiology, environmental physiology, evolutionary physiology, developmental physiology, plant physiology, human physiology, cell physiology and many more. Physiology plays a central role in all biological sciences and research fields, including molecular biology, biochemistry, biophysics, cell biology, pharmacology, medical sciences, and veterinary sciences and gravitational and space biology.

As a student, there are several reasons why you should consider studying physiology. Firstly, it is a core subject in all health-related disciplines (e.g. medicine, dentistry, nursing, kinesiology, physiotherapy, etc.). Students take physiology as a background or prerequisite for these disciplines.

Secondly, students wishing to do graduate studies in any of the health sciences disciplines find physiology to be a valuable background for providing an overall perspective on how the body works. Third, most students find physiology to be interesting and consequently they are often motivated to learn.

If you would like to learn more about physiology as a subject matter, visit the [Canadian Journal of Physiology and Pharmacology](#) to read monthly journal reports on physiology, toxicology, and other topics or you may wish to visit the [American Physiological Association](#) website for extensive information on physiology.

As you can already see, the study of physiology can open numerous doors for professional careers. Many of the careers associated with physiology thrive on helping others and discovering science mysteries of life. If you enjoy these particular attributes than a career in physiology could be for you.

Sources: [American Physiological Society](#), [Schulich Medicine & Dentistry](#)

CAREER OPTIONS IN PHYSIOLOGY

The study of physiology prepares students for a wide range of careers! However, sometimes students hold the belief that an undergraduate science background can only be applied to conventional career paths such as going to medical school, becoming a pharmacist, or working in the biotechnology industry etc. Most students find themselves embracing common “major” myths while at university.

For example, many students believe that picking a major and a career is the same thing. Many students also believe that a university major determines what their lifelong career will be and that a major is something they will be stuck with forever. However, this is not entirely true! Your choice of a major does not determine your career; majors only help to enhance certain skills that will help you to be successful in a number of occupations. It is a common fact that most people will end up working in a career which is totally opposite to the major they had chosen at university. It is also a common fact that most individuals will change their position and careers 6-7 times over a lifetime. Therefore, it is important to understand that while the choices you make today can certainly impact where you will be down the road, these choices will certainly not stop you from making any career changes in the future.

Before you begin to consider the possible career options listed below, take a moment to identify your skills, qualities, interests, experiences, and values. Identifying these factors is extremely important because your chosen career path should complement and embrace the factors mentioned. A successful career is not always based on monetary status; rather, a successful career is a combination of all these elements. Identifying these factors will also cause you to consider and explore career paths you may have never considered before. For example, if you identify that you excel in sales, you

enjoy working with medical equipment, and that you value helping others, then a career as a Medical Salesperson may be for you.

It is important to understand that occupations listed below are merely a sample of what you can do if you have the appropriate skills, education, and experience. This does not mean that the jobs listed below are the only options you have. These jobs are listed to provide you with ideas as to the typical careers/jobs physiology students pursue. Lastly, please note that some of the careers listed below will require you to have additional qualifications and educational background.

If an occupation peaks your interest, feel free to browse through the Career Centre library and website to learn more about the specific occupation. Occupations marked with an asterisk (*) have career profiles which can be viewed using Career Cruising ([CLNx](#) > Resources > Student Resources > Career Resources > Career Cruising).

Source: UTM Career Centre

Career Options

Direct Options in Physiology:

- Lab assistant
- Research assistant
- Bacteriological technician
- Technology transfer officer
- Clinical assistant
- Biological researcher
- Pest control consultant *
- Pharmaceutical sales person
- Medical transcriptionist *
- Medical illustrator *
- Hunger policy analyst
- Medical equipment sales person
- Water quality inspector
- Cardiovascular technician *
- Home care worker *
- Medical lab technician *
- Physiologist
- Personal trainer *
- Geneticist assistant
- Health care administrator *
- Practical nursing *
- Therapist assistant
- Brewery technician
- Echo cardiographer
- Food inspector *
- Food scientist *
- Physical therapy assistant *

Non-Science Related Careers:

- Management consultant *
- Investment advisor *
- Recruiter *
- Entrepreneur/venture capitalist *
- Guidance counsellor
- Public relations specialist *
- Human resources specialist *
- Actuary *
- Marketing specialist *
- Market researcher analyst *
- Job analyst
- Risk management
- Insurance agent *
- Fundraiser *
- Academic advisor
- Alumni relations officer
- Educator/trainer *
- Informal science educator
- Journalist *
- Producer *
- Editor *
- Broadcaster/announcer *
- Web developer *
- Reporter *
- Publisher *
- Administrative assistant *
- Public policy analyst *

- Ward clerk
- Professor
- Health & safety inspector
- Exercise physiologist
- Fitness program director/instructor *
- Reproduction technologist
- Polysomnographic technician

Alternative Career Options:

- Artificial intelligence designed
- Cardiology assistant
- Genetic counsellor *
- Pharmacologist *
- Biotechnologist *
- Forensic scientist *
- Occupational safety technician
- Blood bank technologist
- Midwife
- Prosthetist *
- Public/community nurse
- Medical anthropologist
- Nutritionist/dietician *
- Psychiatrist *
- Therapist *
- Health and lifestyle columnist
- Bioethicist
- Psychologist *
- Community worker
- Environmental consultant *
- Aquaculturalist *
- Natural health practitioner
- Disease control specialist

- Informatics specialist
- Administrator
- Lawyer *
- Judge *
- Court clerk *
- Librarian *
- Personal financial planner *
- Teacher *

- Nutritional chemist
- Biological scientist
- Sports medicine physician
- Toxicologist
- Pharmacist *
- Dentist *
- Medical doctor
- Biomedical engineer *
- Veterinarian *
- Patent agent
- Paramedic *
- Optometrist *
- Chiropractor *
- Occupational therapist *
- Physical therapist *
- Audiologist *
- Speech pathologist *
- Epidemiologist *
- Microbiologist *
- Public health director
- Rehabilitation counsellor *
- Sport scientist

Potential Employers

Science Related Employers:

- Educational institutions
- Biotechnology companies
- Pharmaceutical companies
- Grant agencies
- Regulatory affairs
- Ministerial departments
- Public service
- Health services
- Private practice
- Scientific journals
- Corrections & rehabilitation

- Government
- Medical centres
- Community centres
- Health & sport organizations
- Research centers
- Universities

Non-Science Related Employers:

- Banks
- Marketing/advertising companies
- Retail stores
- Law firms

- Laboratories
- Sports & athletics programs
- Human resources departments
- Consulting companies

Examples of employers who have hired physiology students in the past:

- Medisure Inc.
- Pfizer Canada Inc.
- Centre for Addiction and Mental Health
- Toronto District School Board
- St. Michael's Hospital
- Ontario Ministry of Labour

Skills Needed for Physiology Careers

Physiology careers demand students to have a wide range of skills. Different occupations require individuals to have certain skill sets over others. However, most physiology careers require students to have many of the skills listed below.

Worried that you may not have all the skills below to start a successful career in physiology? Don't sweat it! Many of the skills listed below are developed throughout your time here at university. If you feel like you are lacking the skills credentials, then gaining relevant work experience during university can help diversify your skill set and reduce your worries. It is important to keep in mind that employers do not necessarily expect you to possess all the skills listed below; rather, employers are looking to see if you have dedicated the time to build some of these skills. Employers want students who have built transferable skills and show a keen interest in personal development.

Quantitative/Analytical Skills

- Problem solving
- Planning
- Experimental design
- Data analysis + evaluation
- Analyzing scientific literature
- Thorough knowledge of human body
- Mathematical ability
- Project management

Technical/Laboratory Related Skills

- Laboratory safety awareness
- Laboratory practices
- Use of animals and humans in research
- Complying with quality control regulations
- IT skills
- Eye-hand motor skills

Written/Communication Skills

- Interviewing skills

Interpersonal Skills

- Time management
- Working with culturally diverse people
- Demonstrating sensitivity to confidential information
- Ability to lead, persuade, and influence others
- Managing multiple tasks
- Ability to work independently and in a team
- Entrepreneurial skills
- Professionalism

Lifelong Learning Skills

- Independent learning skills
- Motivation to keep up with current information and technology
- Career development skills

- Presentation skills
- Technical writing
- Grant writing
- Evaluating peer review
- Teaching/mentoring
- Interacting with professional societies;
networking

FURTHER EDUCATION OPTIONS

Now that you have a general sense of the types of occupations you can work in which directly deal with physiology, it is also important to understand that many of the occupations listed above require higher level of education beyond B.Sc. This may include graduate or professional school or post graduate programs. From the Alumni Profiles listed later in this package, you will understand the importance of higher education and how it can help you achieve your goals. Although it may seem as though you are being asked to spend a lot of time in school, higher level of education will certainly open the doors to career paths which cannot be pursued with a bachelor's degree. There are many forms of higher education, so you can explore which one works best for you.

Upon completion of your B.Sc., you have the option to study physiology at a Master and/or PhD level or you can attend professional schools to obtain certain licenses in health careers. Listed below are the universities across Canada who offer physiology at a masters/doctoral level:

- [University of British Columbia](#)
- [University of Victoria](#)
- [University of Alberta](#)
- [University of Saskatchewan](#)
- [University of Manitoba](#)
- [McMaster University](#)
- [Queens University](#)
- [University of Ottawa](#)
- [University of Toronto](#)
- [University of Western Ontario](#)
- [Bishop's University](#)
- [Université Laval](#)
- [McGill University](#)
- [Université de Montreal](#)
- [Université de Sherbrooke](#)
- [Dalhousie University](#)

If you're interested in studying outside of Canada, check out the following resources:

<https://www.petersons.com/>

<https://www.gradschools.com/>

<https://www.utm.utoronto.ca/careers/further-education/graduate-schools>

If you're interested in applying to medical related professional schools:

If you're wondering about post-graduate options:

[UTM Career Centre – Post-Grad and Continuing Education](#)

If you're not sure whether further education is for you:

[UTM Career Centre – Considering Grad School Tip Sheet](#)

[UTM Career Centre – Graduate Schools](#)

[Graduate and Professional Schools Fair](#)

GAINING RELEVANT WORK EXPERIENCE

As you already know, university does a great job of preparing you with the theoretical background you need to pursue a specific occupation/career. Our professors do a wonderful job of providing students with invaluable knowledge to apply in the workforce. However, do prospective employers regard the classroom as the only enriching experience the university setting can offer you? Hardly not! Most employers want students who demonstrate a combination of theoretical knowledge with practical experience. Employers are always looking for well-rounded students who demonstrate a balance between academics and other commitments. Essentially, employers are interested in hiring students who demonstrate theoretical and practical success.

This section will outline the various activities you can get involved in to gain relevant work experience. Information contained below will help you look for part-time, summer, volunteer and fulltime opportunities both on and off campus. Suggestions provided here should be used as a starting point in looking for work opportunities; this is not an exhaustive list of how you can gain relevant work experience.

On-Campus Opportunities

On-Campus Fairs

The Career Centre holds annual fairs to help students connect with employers and look for jobs. The following two fairs may be of particular interest to you since these fairs can help you look for jobs relevant to your field of study. To learn more information about these fairs, visit the [event calendar](#).

[Get Experience Fair](#) helps you learn about opportunities to get involved on campus or in the community.

Research Opportunity Program (ROP)

The Research Opportunity Program allows students to earn a full course credit by participating in a faculty member's research project. This program is a great way to build research, analytical, and data evaluation skills. Science students have the opportunity to take courses like BIO299/399. For more information, visit <https://www.utm.utoronto.ca/experience/rop/>

Internships and Experiential Learning

Many UTM programs provide senior level students the opportunity to gain a course credit while completing un-paid part-time internships in the field study of their choice. The Biology Department at UTM currently offers a Biology Internship course. To learn more about this opportunity visit <https://www.utm.utoronto.ca/experience/students/academic-internships>

Work-Study Positions

Work-study positions are available to UofT students who are eligible for OSAP. The work study program typically runs from September through March, and May through August. Work study positions are a great way to gain relevant work experience and many of the positions require students to work closely with professors. As a result, these positions are a great way to get to know your professors outside of lectures and build contacts for reference letters when applying for graduate/professional schools. To learn more about the work study program visit <https://www.utm.utoronto.ca/careers/work-study-students>

Summer Laboratory Opportunities

Many UTM professors hire students to work in their labs or work on specific projects during the summer. Most professors prefer hiring students they personally know due to their familiarity with the student's skills and interest. It is highly suggested that students build a relationship with their professors in order to determine any employment opportunities. It is always a good idea to ask professors directly whether you can be of any assistance in their research.

UofT Clubs

Joining a student organized club/association on campus is another great way to build relevant experience especially when you get involved as an active member in the club through executive and director roles. Many of the clubs on campus liaison with industry employers, therefore this can create excellent opportunities to build networking contacts with industry professionals. Here is a brief sample list of clubs on campus which you may consider joining:

- [UTM Pre-Med Club](#)
- [UTM Erindale Biology Society](#)
- [Undergraduate Physiology Student's Association](#) (St. George)
- [Graduate Association of Students in Physiology](#) (St. George)

To view and identify more clubs across UofT's three campuses, visit <https://ulife.utoronto.ca/>.

Volunteer Positions On-Campus

Volunteering on campus is yet again another great way to gain marketable skills, build networking contacts, and have something to write about on your resume. Not only does volunteering look good

on your resume, but it gives you the opportunity to give back to the community while making a difference and employers are impressed by this type of commitment! The following are a list of organizations that you may wish to volunteer with:

- [UTM Accessibility Centre](#)
- [Community On Campus](#)
- [Erindale College Special Response Team](#)
- [Let's Talk Science](#)
- [University Health Network](#)

If you are interested in learning about other organization on campus that typically look for volunteer students, check out the Volunteer Postings tab on CLNx.

Off Campus Opportunities

Natural Sciences & Engineering Research Council of Canada (NSERC) (Research Opportunity)

NSERC supports approximately 16,000 qualified students in their research proposals. NSERC supports the development of highly qualified Canadians in the natural sciences and engineering through a number of scholarships and fellowships programs. These programs are intended to stimulate the interest of undergraduate students in research; provide financial support to graduate students and postdoctoral fellows engaged in advanced studies and research; and assist recent recipients of doctoral degrees in adding to their research experience. For more information visit https://www.nserc-crsng.gc.ca/index_eng.asp

National Research Council Canada (NRC)

The NRC Student Employment Program provides students with practical career-related experience in research and development, library sciences, communications, marketing, and other career areas. The Student Employment Program offers students a challenging and intellectually stimulating environment, while providing them with access to superior equipment, facilities, and expertise. To learn more about the Student Employment Program, visit <https://nrc.canada.ca/en/corporate/careers/nrc-student-employment-program>

Volunteer Positions Off-Campus

Looking for off-campus opportunities to volunteer? Check out Volunteer Postings tab on CLNx to find organizations who can help you build relevant experience.

Professional Associations

Professional associations are great way to tap into current industry information. Many associations have member privileges for students and allow students to have access to job postings. Visit the professional association links below to view job postings, get access to career information, and much more

- [American Physiology Association](#)
- [Canadian Physiological Society](#)

More associations can be found by visiting the Career Centre [Professional Associations](#) webpage.

Career Centre Postings

Using the Career Centre job postings on CLNx account is another way to find employment opportunities. This database will allow you to view part-time, full-time, volunteer, and summer positions.

UTM CAREER CENTRE RESOURCES & SERVICES

The UTM Career Centre has plenty of resources and services to assist you during your career planning, and career work search. As mentioned before, the Career Centre is dedicated to helping students make informed career choices. Listed below are a few of the services and resources available at the Career Centre. This is not an extensive list of all the resources and services found within the Centre. This section has been created to give you an idea of what the Career Centre does, how we can help you, and what you should look out for. To become better acquainted with the Career Centre services and resources, visit our homepage online, speak with a Career Assistant on shift, or browse through the library on your own.

Individual Counseling Appointments

Not sure about your future? Need insight on what you can do with your degree? Not sure how you should go about your work search? Book an individual career counselling appointment to speak with a professional Career Counsellor. Individual appointments can also be used to go over personal statements for graduate/professional school applications.

<https://www.utm.utoronto.ca/careers/career-planning/career-counselling>

Resume Critiques

Applying to a job, but not sure whether your resume will make the cut when reviewed by an employer? Sign-up for a thirty-minute resume critique and receive feedback on your resume from a Career Counsellor or Employment Advisor. <https://www.utm.utoronto.ca/careers/jobs/resume-cover-letter-resources/resume-workshops-critiques>

Employment Services

Graduating this year? Are you a recent grad? Learn about the employment services designed specifically for students to begin their full-time work search. Services include the [Recent Graduate Opportunities Program](#) and [Graduate Student Employment Service](#). Through [CLNx](#), the Career Centre also offers regular employment services to students where you have access to postings for summer employment, part-time/temporary, on campus and volunteer.

Workshops

Throughout the school year many workshops are held at the Career Centre to help students get in contact with important information that can help you make effective career choices. Some workshops that may be of particular interest to you include:

- Your Science Degree Under the Microscope

- Med School Information Session
- The Road to Graduate School
- Networking for Career Success

<https://www.utm.utoronto.ca/careers/events/workshops>

Job Shadowing

Ever wondered what your dream career is really like? Consider applying to the Job Shadowing Program. This is a unique career exploration program offered to current U of T students. The program will allow you to have the opportunity to investigate your career interests in the actual workplace over a 1 to 5 day voluntary placement in February and/or May.

<https://www.utm.utoronto.ca/careers/jsp/job-shadow-program-information-students>

Alumni Mentorship

Looking for insight, guidance, and the opportunity to network with a working professional in your career area of interest? Apply to the Alumni Mentorship program to become a protégé, and gain invaluable knowledge from a UTM alumni.

<https://www.utm.utoronto.ca/utm-engage/mentoring/alumni-mentorship>

Events

Throughout the Fall/Winter academic term many events are held by the UTM Career Centre ranging from Career Fairs, Employer Information Sessions, Career Panels, Networking Events and more. To learn more, visit the UTM Career Centre homepage under the Events category. Here are a few annual events that may be of interest to you:

- Get Experience Fair
- Professional Schools Fair
- Summer Job Fair

<https://www.utm.utoronto.ca/careers/events/upcoming-events>