

Water Security

Master of Water Security (M.W.S.)

Master of Water Security: one-year full-time and two-year part-time options

The Master of Water Security is an interdisciplinary project-based program that focuses on a holistic approach to water security. The mission of the M.W.S. program is to train the next generation of water scientists, engineers, managers, and policy-makers to tackle the complex and interdisciplinary water problems of the future.

What will I learn?

- 1 Develop technical and interdisciplinary knowledge in water security and sustainability
- 2 Acquire skills in data analysis and modelling that are needed to address threats to water security
- 3 Engage in collaborative problem-based learning to address real-world wicked water challenges
- 4 Clearly communicate the physical and human dimensions of water security to solve real water problems
- 5 Understand how water management and policy decisions are made and how to influence them

Sample courses

ENVS 806.3
Field Skills in Environment and Sustainability

ENVS 821.3
Sustainable Water Resources

ENVS 829.3
River, Lake, and Wetland Science

ENVS 819.3
Catchment Hydrology

JSGS 870.3
Water Policy in an Age of Uncertainty

Graduate Certificates in Water Security

Not ready for the full program? Why not try a graduate certificate? These certificates can be taken as standalone programs or used to ladder into the Master of Water Security.

Water Science

Water Resources

Sustainable Water Management

What can I do with a Water security degree?

Water for crops Sustainable and integrated water resources management

Source water protection **Water quality monitoring**

Ecosystem services Environmental impact assessment

Sustainable groundwater **Sustainable clean rivers**

Forecasting floods and droughts Hydrological analysis and modelling

Source: LinkedIn

"If you want to learn about and to be in the world of water security, this program is the right home for you."

Palash Sanyal, M.W.S. Alumnus 2018, Strategic Partnerships Specialist, Global Institute for Water Security

"This multidisciplinary program helps students to understand the connection between water science, policy, and stakeholders/rightsholders. The instructors assisted us to work in teams efficiently and to realize the importance of every team member."

Tyrone Miranda, M.W.S. Alumnus 2019, Research Admin Assistant, Global Institute for Water Security



PLAN YOUR ROUTE: WATER SECURITY

Explore your degree

BEGINNING STAGE

Water Security required courses

- ENVS 805.3 | **Data-driven Solutions for Sustainability**
- ENVS 806.3 | **Field Skills in Environment and Sustainability**
- ENVS 820.3 | **Water and Human Health and Wellbeing**
- ENVS 821.3 | **Sustainable Water Resources**
- ENVS 824.3 | **River Science OR**
- ENVS 829.3 | **River, Lake, and Wetland Science**

*Note: order of courses in beginning and intermediate stages may vary year to year.

Explore information about your major in the Course and Program Catalogue

Meet with Program Director to learn about and plan your program direction

Plan to attend and participate in annual Orientation activities to learn more about SENS and your academic program

Get to know university services and tools for online learning

Grow local and global connections

Visit the USask Community Centre to make connections and build community

Get involved in your campus community through student groups, campus rec, and USask events

Get to know your learning cohort and SENS faculty

Join the SENS Student Association (SENSSA) and the Graduate Student Association (GSA)

Become a student member of the Global Institute for Water Security

Advance your career

Meet with a Career Coach at Career Services to explore your career possibilities

Take a career assessment to learn more about your strengths, personality, interests, and values

Develop your LinkedIn profile to begin building your professional brand

Consider Professional Development opportunities offered through the Graduate Students Association

Apply to be a student assistant

Create an ePortfolio of your experiences and competencies

INTERMEDIATE STAGE

Water Security required courses

- ENVS 815.3 | **Modelling for Water Security**
- ENVS 816.3 | **Chemicals in Aquatic Systems**
- ENVS 817.3 | **Fundamentals of Hydrogeology**
- ENVS 819.3 | **Catchment Hydrology**
- JSGS 870.3 | **Water Policy in the Age of Uncertainty**

Check DegreeWorks to ensure your degree is on track

Complete all core and required course work

Prepare for project placement

Get to know your project partner

Develop relationships in local community

Seek opportunities to attend workshops, symposiums and/or seminars

Consider a leadership position in SENS SA

Participate in Global Institute for Water Security student events

Discover job opportunities, explore career options, and meet professionals at Career Services events and career fairs

Expand your professional network on LinkedIn

Get a better understanding of your career possibilities through career informational interviews

Conduct occupational research through Job Bank and LinkedIn

Attend all ENVS 992.6 career workshop activities (e.g., cover letter and résumé writing, interview skills, etc.)

To understand what skills employers are looking for, review the Career Readiness Competencies

FINAL STAGE

Water Security project

ENVS 992.6 | **Project in Environment and Sustainability**

Project at a Glance:

- Real-world, hands-on, applications-based experience
- Project placement with a government, NGO or private company partner
- Professional and technical skills development

Apply to graduate

Complete project placement with community partner

Present community project at annual symposium

Join the USask Alumni and Friends community

Join professional and community associations related to your areas of interest

Become a member of EcoCanada

Look for work opportunities using the networks you have built with you external partner and through the Global Institute for Water Security

Update your résumé, cover letter and CV

Meet with Career Services to prepare for your interview

If you are new to Canada, take time to learn about how to search for a job in Canada

Attend public job talks

Familiarize yourself with different job boards and investigate avenues for career opportunities (LinkedIn, Eco Canada, Indeed, specific associations & government ministries/agencies, etc.)

SENS PROFESSIONAL ATTRIBUTES



LEADER



INTEGRATOR FOR INFLUENCING ORGANIZATIONAL CULTURE AND CHANGE



CRITICAL AND CHANGE-ORIENTED THINKER



COLLABORATOR, COMMUNICATOR, AND BRIDGE-BUILDER



REFLECTIVE PRACTITIONER AND ADAPTIVE MANAGER

Possible destinations...

People with a water security degree take their knowledge and skills into many different industries and occupations. Some of the career paths listed here require further education and training.



Why study water security?

According to EcoCanada, the demand for environmental workers will impact every region and nearly every occupation. The environmental sector is expected to grow 8% by 2029, and close to 30% of the current workforce is poised to retire within the next decade. The combination of new jobs and replacement demand may contribute as many as 233,500 net openings by 2029.

Post-secondary education is a requirement for most environmental jobs across Canada, whether drawing candidates from life science to policy, from engineering to communications, public administration and beyond.

Given the environmental workforce gaps identified in this report, students and mid-career professionals might consider selecting an area of study or upskilling that would put them in a position to take advantage of these opportunities.

Source: ECO Canada. (2020). www.eco.ca



What are common career paths in water security?

Climate Change Mitigation Planner

Environmental Scientist

Research Project Coordinator

Consultant Hydrogeologist

Flood Forecaster

Water Policy Analyst

Consultant Hydrologist

Hydrometric Data Analyst

Water Quality Analyst

Environmental Consultant

Hydrometric Monitoring Manager

Water Resource Manager

Environmental Manager

Research Assistant

Source: LinkedIn



How much do professionals in water security careers earn across Canada?

Earning range

\$54,329 to \$90,238

Source: Census 2016 Job Bank, based on recent Master's graduates

"We have partnered in the MWS program for several years. This program provides our organization with professional support to complete research and project beyond our current capacity. It has helped us advance our leadership and has paved opportunities for additional networks and projects as a complimentary bonus.

It is an adventure to collaborate with creative minds and be a part of their career path. I'm always pleased to receive a reference request and see where life takes each of our student partners."

Katherine Finn, Manager, North Saskatchewan River Basin Council



UNIVERSITY OF SASKATCHEWAN
School of Environment
and Sustainability
SENS.USASK.CA

BE WHAT THE WORLD NEEDS



One of SENS's priorities is to advance the United Nations Sustainability Goals, which is reflected in our interdisciplinary courses and curriculum.