FISHERIES SCIENCE
(FISHERIES SCIENCE AND TECHNOLOGY)

MASTER OF SCIENCE DEGREE
Plan and execute studies to collect new data, informing and influencing the management of marine fisheries.
PROGRAM DESCRIPTION

The Degree of Master of Science in Fisheries Science (Fisheries Science and Technology) is a full-time, research-focused Master’s degree offered by the Marine Institute’s School of Fisheries. This program is for students who aim to pursue a career in fisheries science and includes skills training that will empower students to conduct publication-quality research in any aspect of fisheries science.

For more information and to apply, [www.mi.mun.ca/fsft](http://www.mi.mun.ca/fsft).

PROGRAM OBJECTIVE

To train world-class researchers that are capable of conceiving and executing rigorous scientific studies, and communicating the results and implications of those studies to the scientific community and beyond.

Graduates of this program will be able to:

- Conduct original research
- Collect, manage and analyze data
- Display and interpret qualitative information
- Demonstrate adherence to the principles of scientific integrity
- Effectively communicate their research
  - Through peer-reviewed publications in reputable science journals
  - In oral and poster-based presentations at scientific conferences and meetings
  - In formats accessible to stakeholders, including media, industry publications and in other relevant venues
- Explain how their research fits with the broader policy environment of fisheries at local, national and international scales
PROGRAM REQUIREMENTS

The program’s core courses are designed to develop proficiencies in quantitative techniques, study design, and science communication that are necessary to be effective at fisheries research.

Students must complete 12 credit hours of course work.

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<th>SEMESTER</th>
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<td>Fall</td>
<td>FISH 6000 Science Communication for Fisheries</td>
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<td>FISH 6001 Ecology, Management, and Practice of North Atlantic Fisheries</td>
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<td>FISH 6002 Data Collection, Management, and Display</td>
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<td>Winter</td>
<td>FISH 6003 Statistics and Study Design for Fisheries Science</td>
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Students must meet with their supervisory committee within the first three months of their program, submit a research proposal within the first six months and then present their proposal at a public seminar.

Students must also complete a thesis composed of at least one chapter of original research. Prior to submitting their thesis for examination, students must complete a public presentation on their work.

Students will normally complete their thesis within two years (six semesters) of enrolling in the program.

PROGRAM STRUCTURE

This program recognizes that fisheries science is a broad discipline that is applied in nature and requires proficiency in quantitative and communication skills. Students will gain practical skills through coursework while developing their theoretical understanding through supervised research and through their interactions as an active participant within the scientific community. Students will also be exposed to the depth of the field of fisheries science through lab meetings, reading groups and guest lectures.

ADMISSION

REQUIREMENTS

Admission to the program is on a limited and competitive basis.

To be considered for admission to the program, an applicant will normally possess a high second class Honours degree or an M.D. degree, or the equivalent of either, both in achievement and depth of study from an institution of recognized standing.

Applicants will need to have identified a supervisor, who must be either a research scientist with the Marine Institute’s School of Fisheries, a cross-appointed or adjunct faculty with the School or an actively-publishing researcher within the School that holds a Ph.D. Students will also need a supervisory committee.

Any other applicant may be considered for admission provided that:

a. The applicant’s undergraduate record after the first year shows an average of at least Grade B in courses in the proposed field of specialization;

b. The applicant’s overall undergraduate record after the first year shows an average of at least Grade B in all courses taken; and

c. The applicant demonstrates a commitment and passion for aquatic science, ideally in fisheries, through employment or experience in field schools, research programs, the fishing industry, regulatory agencies or government departments, non-governmental organizations, consulting activities, or other relevant activities.

HOW TO APPLY

Applications are reviewed three times a year. Applicants should submit their application to Memorial University’s School of Graduate Studies by the following deadlines:

- FALL ADMISSION — MAY 15
- WINTER ADMISSION — SEPTEMBER 15
- SPRING ADMISSION — JANUARY 15

For more information and to apply online, go to www.mun.ca/become/graduate/apply.
COURSE DESCRIPTIONS

FISH 6000 - SCIENCE COMMUNICATION FOR FISHERIES
This course will train students in the full spectrum of science communication. The fundamentals of scientific writing, academic publishing, and oral and poster presentations will comprise the first half of the course. The second half will focus on communicating outside the academic environment, and how to responsibly disseminate research across a range of media.

FISH 6001 - ECOLOGY, MANAGEMENT, AND PRACTICE OF NORTH ATLANTIC FISHERIES
In this overview course on fisheries science, several researchers will deliver two-week modules on their areas of expertise. Students will be exposed to the diversity of research conducted at the Marine Institute including fisheries ecology, conservation and sustainability, harvesting technology, post-capture processing and fisheries policy.

FISH 6002 - DATA COLLECTION, MANAGEMENT AND DISPLAY
Modern fisheries scientists work in a complex data environment. This course will introduce students to the basics of R statistical software including programming best practices, optimizing workflows and producing tidy data. A focus on data display and visualization will be present throughout this course, reflecting the importance of good graphing habits in science.

FISH 6003 - STATISTICS AND STUDY DESIGN FOR FISHERIES SCIENCE
This course will provide an overview of modern statistical techniques used in fisheries research. A broad range of approaches will be covered and students will learn the advantages and disadvantages of each, how they relate to one another, when they are applicable, and how to implement them in R. Special focus will be placed on designing powerful experiments.

PROGRAM DELIVERY AND SUPPORT
Program courses will be delivered at the Marine Institute Ridge Road campus. M.Sc. research projects should be of a scope that can be reasonably completed in two years, including coursework. Students should complete their program courses in the first year of the program. Internships may be a part of any student’s research program, provided the supervisor and supervisory committee are supportive. The Marine Institute’s Office of Career Integrated Learning is a resource that could be available to students or they can seek internships themselves with the support of their mentorship team.

ABOUT THE MARINE INSTITUTE
As a campus of Memorial University of Newfoundland, the Fisheries and Marine Institute is Canada’s most comprehensive centre for education, training, applied research and industrial support for the ocean industries. Located on the edge of the Atlantic Ocean, we are one of the most respected centres of marine learning and applied research in the world. The Marine Institute provides more than 20 industry-driven programs ranging from technical certificates to doctorate degrees. In addition to undergraduate and graduate degrees, the Institute offers advanced diplomas, diplomas of technology and technical certificates. Students enjoy a learning environment where small class sizes are the rule, hands on instruction is a way of life and competitive tuition rates put an internationally-recognized education well within reach. The Institute also runs a variety of short courses and industrial response programs. All programs and courses are designed to provide students with knowledge and skills required for success in the workforce. The Institute has three Schools — the School of Fisheries, the School of Maritime Studies and the School of Ocean Technology — and within these Schools a number of specialized centres and units. Our School of Fisheries reflects the diversity of fisheries science as a whole. Scientists in the Centre for Fisheries and Ecosystems Research primarily study ecosystem dynamics that inform the management of fisheries. Researchers at the Centre for Sustainable Aquatic Resources develop and assess techniques for conducting fisheries sustainably. Research on fish processing is the mandate of the Centre for Aquaculture and Seafood Development. Our researchers collaborate with engineers, social scientists, policy experts, economists, and members of many other disciplines in pursuit of their research objectives.
CONTACT INFORMATION

GRADUATE STUDENT RECRUITMENT OFFICER
Student Affairs
Fisheries and Marine Institute of
Memorial University of Newfoundland

Telephone: 709.778.0395
Toll-free: 1.800.563.5799, ext. 0395

recruitment@mi.mun.ca
www.mi.mun.ca/fsft
www.mun.ca/become/graduate

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