MARINE STUDIES (FISHERIES RESOURCE MANAGEMENT)

MASTER’S DEGREE (ONLINE)

Gain a multidisciplinary graduate degree in the entire range of fisheries management issues.
PROGRAM DESCRIPTION

The Master of Marine Studies (Fisheries Resource Management) is a multi-disciplinary program of study that provides exposure to all dimensions of modern fisheries resource management. This online program provides an understanding of relevant concepts in ecology, resource assessment, economics, business, technology, as well as fisheries policy and planning. While focused primarily on the North Atlantic, the program also deals with major world fisheries including a range of inter-jurisdictional issues.

ADMISSION REQUIREMENTS

Applicants must meet Memorial University School of Graduate Studies’ admission requirements.

Admission to the program is on a competitive basis. To be considered for admission to the program an applicant must normally have an undergraduate degree with a minimum of a high second class standing from an institution recognized by the Senate.

In addition to the academic requirements above, applicants will normally have a demonstrated commitment to fisheries through employment or experience in a sector of the fishery, in a regulatory agency or government department connected to fisheries, in a non-governmental agency, or through self-employment or consulting activities related to fisheries.

HOW TO APPLY

Applicants should submit their application to Memorial University’s School of Graduate Studies by the following deadlines:

- FALL ADMISSION – JUNE 15
- WINTER ADMISSION – OCTOBER 15
- SPRING ADMISSION – FEBRUARY 15

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

PARTICIPANTS WILL COMPLETE COURSE WORK OFFERED BY THE FISHERIES AND MARINE INSTITUTE, MEMORIAL UNIVERSITY.

OPTION 1
- Five core courses (15 credit hours)
- Three elective courses (9 credit hours)
  - One from Category A
  - One from Category B
  - One from Category A or B
- Major Report

OPTION 2
- Five core courses (15 credit hours)
- Five elective courses (15 credit hours)
  - Two from Category A
  - One from Category B
  - Two to be chosen from either Category A or B

CORE COURSES
- MSTM 6001 - Fisheries Ecology
- MSTM 6002 - Fisheries Resource Assessment Strategies
- MSTM 6003 - Fisheries Economics
- MSTM 6004 - Fisheries Policy and Planning
- MSTM 6005 - Overview of World Fisheries

ELECTIVES CATEGORY A
- MSTM 6006 - Business Management for Fisheries
- MSTM 6007 - Fisheries Technology
- MSTM 6008 - Social and Philosophical Issues of Fisheries Management
- MSTM 6009 - Current Issues for Sustainable Fisheries
- MSTM 6010 - Legal Aspects of Fisheries Resource Management

ELECTIVES CATEGORY B
- MSTM 6022 - Communication and Conflict Resolution in a Technical Environment
- MSTM 6023 - Strategic Planning, Policy, Participation and Management in Technical Operations and Systems
- MSTM 6033 - Project Management in the Offshore, Health, Fisheries and Engineering Technology Environments
- MSTM 6034 - Sustainability and Environmental Responsibility
- MSTM 6044 - Marine Environment Law and Pollution Control
- MSTM 6056 - Management for International Development
- MSTM 6071 - Management of Aquaculture Technology

COURSE DESCRIPTIONS

MSTM 6001 - FISHERIES ECOLOGY
This course is designed to give participants an understanding of fisheries science and ecology, focusing on global species of commercial value. Specifically, it will examine various species, how they interact with their biotic and abiotic environment, how we study them, and how human activities have affected their population structure and environment. It will also consider the impacts of commercial production technology for both wild and farmed species.

MSTM 6002 - FISHERIES RESOURCE ASSESSMENT STRATEGIES
This course is designed to give participants an understanding of fish population dynamics and stock assessment practice. It will examine how populations of fish species are surveyed and how the data collected is used to model changes in population abundance over time. Assessed during this course are population growth models, stock recruitment models, biomass dynamic models, age structured models and ecosystem based models. The goal of this course is to give the participant a greater understanding of the analysis that must precede responsible fisheries management decisions.

MSTM 6003 - FISHERIES ECONOMICS
The objective of this course is to develop an understanding of how economic analysis is used in private and public decision-making involving fishing activity, and how it enters the design and evaluation of fisheries policy that promotes sustainable use of the fisheries resource. The course acquaints students with the principal economic models of the fishery, and provides an introduction to the methods of bioeconomic analysis under alternative management regimes and institutional arrangements.

MSTM 6004 - FISHERIES POLICY AND PLANNING
Fisheries Policy and Planning will introduce students to the parameters surrounding the formulation of fisheries policy and the considerations that enable the planning process. Students will gain insight into the mechanisms that contribute to policy development as well as the intended and unintended outcomes of the fisheries planning and policy process. The course is divided into three parts. Part I will focus on sources and instruments that drive policy development in democratic societies and provide the legal and political origins of the planning and policy framework in an international context. Part II will explore current issues such the role of science, monitoring, control and surveillance and resource allocation, and finally Part III covers special topics such aquaculture, fisheries certification and recreational fisheries.

MSTM 6005 - OVERVIEW OF WORLD FISHERIES
This course will focus on wild fish capture technology and its impacts on the sustainability of marine ecosystems as well as fishery management and regulatory strategies. The course will review active and passive commercial fishing gears and an examination of the conservation strategies employed by commercial fishing technologies will be undertaken. The effects of modern fishing gear engineering and the need for global responsible fishing practices will be the specific focus of the course learning objectives.

MSTM 6006 - BUSINESS MANAGEMENT FOR FISHERIES
This course will include an overview of project management. It will include presentations, discussions, and case-based analysis around project planning and monitoring: resource planning, budgeting and cost controls, assessing and managing risks; managing team work: effective communications, quality control, and negotiations and contracts.

MSTM 6007 - FISHERIES TECHNOLOGY
This course will focus on wild fish capture technology and its impacts on the sustainability of marine ecosystems as well as fishery management and regulatory strategies. The course will review active and passive commercial fishing gears and an examination of the conservation strategies employed by commercial fishing technologies will be undertaken. The effects of modern fishing gear engineering and the need for global responsible fishing practices will be the specific focus of the course learning objectives.

MSTM 6008 - SOCIAL AND PHILOSOPHICAL ISSUES OF FISHERIES MANAGEMENT
This course will explore the concepts of open access resource use from an historical perspective and the influence of capitalism on resource use, resource access and property regimes presently found in modern fisheries. Technology, resource partitioning and global economies will be explored in terms of impacts on communities, women and local economies. The emphasis of this course is the social and philosophical issues of resource use on individuals and the global community as we move into the 21st century.
MSTM 6009 - CURRENT ISSUES FOR SUSTAINABLE FISHERIES

This course will examine the rapid growth of the global seafood sustainability movement and the impact that it has been having on making the seafood marketplace more environmentally, socially and economically sustainable. The course will provide an overview of the eco-labeling movement in the seafood sector and the success of the ENGO community in its ability to harness the purchasing power of consumers to influence seafood sustainability. The course will examine these trends in both the capture fishery and aquaculture sectors. Key topic areas for discussion will include a review of the various government and non-government eco-labeling and emerging traceability and certification requirements and their impact on creating sustainable fisheries will be examined.

MSTM 6010 - LEGAL ASPECTS OF FISHERIES RESOURCE MANAGEMENT

This course is designed to enable students to gain an appreciation of local, national and international regulatory regimes for management of fishery resources. Fishery legislation and regulation will be examined and compared at local and national levels and examination of regional fishery organizations will be discussed in relation to international agreements. Global efforts of fishery management will also be examined as a regulatory mechanism for high seas fishing.

MSTM 6022 - COMMUNICATION AND CONFLICT RESOLUTION IN A TECHNICAL ENVIRONMENT

This course provides participants with an understanding of the basic principles of conflict resolution, negotiation, and effective communication and interpersonal skills. The skills taught will enable students to diagnose, understand and accept a role in the negotiation and management of conflicts between individuals and groups in an organizational context; to investigate and solve problems and manage conflicts within the workplace.

MSTM 6023 - STRATEGIC PLANNING, POLICY, PARTICIPATION AND MANAGEMENT IN TECHNICAL OPERATIONS

This course is designed to give participants an understanding of the strategic planning and policy development needs and functions of an organization. The course will examine current concepts, approaches and, specifically the critical role of managers and leaders in the areas of planning, policy development, problem solving and decision making. Strategic planning and policy development in the business must be led by managers who provide overall vision, coordination, decisions on allocation of resources, communication and ongoing commitment, evaluation and support.

MSTM 6033 - QUALITY SYSTEMS

The course provides students with an understanding of several key concepts related to quality management including TQM (total quality management); ISO 9000; the role of management; customer focus (internal and external); employee empowerment; and benchmarking. Continual improvement techniques and strategies including SPC (statistical process control); six sigma; Kaizen approach and CEDAC system will be explored. The contributions of various quality pioneers including Deming, Juran and Crosby will be discussed.

MSTM 6034 - PROJECT MANAGEMENT IN THE OFFSHORE, HEALTH, FISHERIES AND ENGINEERING TECHNOLOGY ENVIRONMENTS

This course will include an overview of project management. It will include presentations, discussions, and case-based analysis around project planning and monitoring; resource planning; budgeting and cost controls; assessing and managing risks; managing team work; effective communications; quality control; and negotiations and contracts.

MSTM 6039 - SUSTAINABILITY AND ENVIRONMENTAL RESPONSIBILITY

This course focuses on tools that can be applied within organizational strategies for sustainability and social responsibility. Students will examine the impacts and identify opportunities for improvement through the use of environmental auditing, performance reporting, selection of indicators, environmental risk assessment, modeling and environmental accounting. The course will also address global issues such as climate change and carbon trading.

MSTM 6044 - MARINE ENVIRONMENT LAW AND POLLUTION CONTROL

This course focuses on domestic & international issues of marine environmental law, pollution control and prevention. Students will consider the roles of legislation, jurisdiction, organizational structures, international agreements, transboundary issues, and rights of coastal states in addressing marine environmental problems with regards to shipping.

MSTM 6056 - MANAGEMENT FOR INTERNATIONAL DEVELOPMENT

This course will involve the students in discussions and case studies related to international development activities that aim to improve the livelihoods of the poor and/or under-represented in developing countries. It will consider types of funding agencies, proposal development, needs assessments, project management strategies, sustainable resource management, human resource development, consideration of the impacts on the host or target group as well as their developing country, change management strategies, communication strategies, and other relevant topics.

Major Report

The Major Report will normally be undertaken towards the end of the program. The topic of the report and a faculty Supervisor will be chosen by the candidate in consultation with the Academic Advisory Committee. The report provides an opportunity to synthesize an original perspective on a selected fisheries issue through the examination of appropriate literature and other sources of information. Normally the report will be multi-disciplinary in nature and will result in a document equivalent to a publishable periodical journal article or a consultant’s report on a particular issue. It will be assessed in accordance with General Regulations, Theses and Reports of the School of Graduate Studies.

MSTM 6071 - MANAGEMENT OF AQUACULTURE TECHNOLOGY

This course will discuss management issues related to existing and innovative aquaculture technology, as the industry strives to improve production efficiencies and lessen environmental impact of farming operations. The participants will evaluate the operational, environmental, husbandry dynamics and economic considerations of aquaculture technology.
## COURSE SELECTION CHART

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<tr>
<th>COURSE SELECTION CHART</th>
<th>MAJOR REPORT OPTION</th>
<th>COURSE ROUTE</th>
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<tr>
<td><strong>CORE COURSES</strong></td>
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<td>MSTM 6001 Fisheries Ecology</td>
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<td>MSTM 6002 Fisheries Resource Assessment Strategies</td>
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<td>MSTM 6005 Overview of World Fisheries</td>
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<td>MSTM 6006 Business Management for Fisheries</td>
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<td><strong>ELECTIVE COURSES: CATEGORY B</strong></td>
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<td>Major Report completed in accordance with General Regulation Theses and Reports of the School of Graduate Studies</td>
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### PROGRAM DELIVERY AND SUPPORT

The overall structure of the program is course-based with courses offered online by the Fisheries and Marine Institute of Memorial University. This is fully supported by Centre for Innovation in Teaching and Learning (CITL). Brightspace is used as the main content delivery method and provides a virtual classroom for each course in the program.

Students can avail of all the services and support offered by the Marine Institute and Memorial University including access to the extensive University Library System resources and to Help Desk support available through CITL for technical issues related to Brightspace.

### 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 master’s 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.

These centres and units lead the Institute, both nationally and internationally, in applied research and technology transfer and in the provision of training to a variety of industry clients.
CONTACT INFORMATION

GRADUATE STUDENT RECRUITMENT OFFICER
Division of Academic and 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/mms
www.mun.ca/become/graduate

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