

Institute	Course Name and Number	Faculty	Department	Description
Memorial	3280 The Arctic	Humanities and Social Science	Anthropology	Studies cultural, ecologic, economic and social systems in the northern circumpolar regions.
Memorial	3588 Arctic Archaeology	Humanities and Social Science	Archaeology	an introduction to the archaeology of the Canadian Arctic, Greenland, and Alaska, from earliest settlement to historic interactions between Inuit and Europeans. Special emphasis is placed on the eastern Canadian Arctic, and the changing social and economic adjustments arctic peoples have made to a challenging environment.
Memorial	3510 Geography of the Seas	Humanities and Social Science	Geography	an introductory course in marine science and management treating the world's oceans as a global geographic unit. The course covers basic physical, geological and biological marine science and applications of basic science to management issues facing the oceans today.
Memorial	4300 World Fisheries: Current Discourse and Future Directions	Humanities and Social Science	Geography	a seminar course on the key concepts, principles and challenges in fisheries resources worldwide. Topics of discussion include the state of world fisheries, analysis of various management approaches and tools, and future scenarios for world fisheries.
Memorial	4190 Coastal Geomorphology	Humanities and Social Science	Geography	an advanced course in geomorphology of coastal regions in all climate zones. Covers reflective and dissipative beaches, barrier systems, coastal sand dunes, deltas, tidal flats, estuaries, reefs, bedrock and karst shorelines, ice-dominated shorelines, and influence of climate change and sea level change on coastal environments.

Memorial	4050 Engaging Arctic and Northern Geographies	Humanities and Social Science	Geography	explores the geography of global Arctic and Northern Regions from an integrative geographical perspective. Students integrate and apply concepts, themes, and methodologies developed over the Geography program in a hands-on, northern-focused research project.
Memorial	2495 Regional Geography of Labrador	Humanities and Social Science	Geography	a holistic study of the Geography of Labrador, including the terrain, geology, Quaternary history, climate, vegetation, and fauna; the cultural geography of Labrador, including Innu, Inuit, NunatuKavut, and Settler people and communities; economic activities in Labrador, and the interaction of the Labrador economy within Newfoundland, Canada, and globally; the management of physical and human resources; and the geographic techniques used to investigate and understand Labrador's unique Geography.
Memorial	4670-4690 (Excluding 4672) Special Topics in Maritime History	Humanities and Social Science	History	are specialized studies in Maritime history.
Memorial	3110 History of Newfoundland to 1815	Humanities and Social Science	History	studies the growth of settlement and the manner in which a 'migratory' fishery carried on from England and Ireland changed into a 'sedentary' fishery carried on by residents of Newfoundland.
Memorial	3680 North Atlantic Seafaring to 1850	Humanities and Social Science	History	examines the maritime mercantile development of the countries on the Atlantic littoral, 1650-1850.
Memorial	4650 Public Policy in Resource Dependent Economies	Humanities and Social Science	Political Science	examines the political economy of Canada's human and natural resources, such as labour, energy, fisheries, forestry, mining, and water. The political consequences of natural resource dependency on the environment and Indigenous are also discussed.

Memorial	4680 Public Policy in Newfoundland and Labrador	Humanities and Social Science	Political Science	a study of public policy in Newfoundland and Labrador. Examines the formation, implementation and impact of policies in one or more of the following areas: fisheries, resources, industrial development, agriculture, social policy.
Memorial	4200 International Law and Politics	Humanities and Social Science	Political Science	a research seminar on contemporary Canadian legal problems. Each semester will focus on one problem, such as Northern sovereignty, pollution, fishing zones or control of the sea.
Memorial	4104 Environmental Sociology	Humanities and Social Science	Sociology	examines the social forces that drive environmental degradation and responses to environmental issues. The course explores how environmental issues, such as climate change, fisheries collapse, or deforestation, are intertwined with systems of social power and inequality. Through this course, students will learn how a sociological perspective helps address the causes and potential solutions for environmental problems and conflicts.
Memorial	3317 Oil and Society	Humanities and Social Science	Sociology	an examination of the sociology of the Western oil industry and of the social and cultural implications of oil activities for those regions in which they occur. Particular attention will be paid to North Atlantic societies: Scotland, Norway, and Atlantic Canada.
Memorial	2230 Newfoundland Society and Culture	Humanities and Social Science	Sociology	focuses on the social and cultural aspects of contemporary island Newfoundland.
Memorial	MED 6277 Issues in Northern, Rural, and Remote Health in Canada	Medicine	Community Health and Humanities	

Memorial	1000 Exploration of the World Ocean	Science	Ocean Sciences Faculty of Science	an introductory course covering the major ocean sciences (biology, chemistry, geology, physics) at a level sufficient for science majors but accessible to non-science majors. It explores phenomena occurring from the shoreline to the abyss and from equatorial to polar regions. It also examines principles of marine ecology as well as how the marine environment affects humans and vice versa. The course is offered either in a blended format (combining face-to-face lectures and online interactive activities in the form of virtual oceanographic expeditions) or exclusively online.
Memorial	2000 Introductory Biological Oceanography	Science	Ocean Sciences Faculty of Science	provides a general understanding of the biological processes that occur in coastal and oceanic environments. It introduces students to the major groups of bacteria, phytoplankton, invertebrates and fish, emphasizing the biotic and abiotic factors controlling primary production and marine biomass. It shows how the physical, chemical, and geological environments interact with biology to define processes and patterns affecting nutrients and life in marine ecosystems.
Memorial	2001 Introduction to Sustainable Fisheries and Aquaculture	Science	Ocean Sciences Faculty of Science	introduces students to the breadth of aquaculture and fisheries science and the variety of animal species cultured and harvested. Basic aspects of aquaculture and fisheries and the links between the two are covered, including production systems, capture fisheries, environmental interactions, and the physiology, ecology and reproduction of finfish and shellfish in the context of their culture and harvest.

Memorial	2100 Introductory Chemical Oceanography	Science	Ocean Sciences Faculty of Science	<p>provides an introduction to the fundamental chemical properties of seawater and the processes governing the concentrations of elements and compounds in the oceans. It is an introduction to the sources, distribution, and transformations of chemical constituents of the ocean, and their relation to biological, chemical, geological, and physical processes. Topics include: controls on average concentration of chemicals in the ocean; vertical and horizontal distributions of ocean constituents; air-sea interactions; production, export, and remineralization of organic matter; the ocean carbon cycle; human-induced changes; stable isotopes; and trace elements.</p>
Memorial	2200 Introductory Geological Oceanography	Science	Ocean Sciences Faculty of Science	<p>a study of the formation and evolution of oceans, including plate tectonics, mid-ocean ridges (birth place of oceans), subduction zones (where oceans are consumed), sedimentary environments such as estuaries, deltas, beaches and barrier islands, continental shelves, slopes and deep abyssal plains and special topics, including anoxic events, evolution of tides, atmosphere-ocean interactions, formation of banded iron formations, snowball Earth, black and white smokers, and how Earth modulates its climate through atmosphere, hydrosphere, biosphere and lithosphere interactions.</p>

	2300 Introductory Physical Oceanography	Science	Ocean Sciences Faculty of Science	<p>provides an introduction to general oceanography with a primary focus on physical oceanography. Topics include how oceans form and evolve on a planetary scale. Ocean characteristics studied include: the properties of seawater; elementary dynamics of fluids on the rotating Earth; ocean circulation; wind-forcing in the ocean; tides and waves. Contemporary methods used in oceanographic study are covered including satellite oceanography. Interactions that occur between physical and chemical processes and biological activity are reviewed.</p>
	2500 Introduction to Practical Ocean Sciences		Ocean Sciences Faculty of Science	<p>explores the instruments, techniques and analytical methods commonly used to study marine life and processes, chiefly focusing on the interaction between living organisms and their chemical, physical and geological environment. The course combines ship-based or shore-based sampling and data collection with laboratory investigation in an intensive 2-week long format. It is primarily intended for mid-level undergraduate students majoring in Ocean Sciences or Marine Biology. This course will either be offered during a special session following the Winter semester, or in the Spring semester.</p>

	3000 Aquaculture Principles and Practices		Ocean Sciences Faculty of Science	emphasizes the techniques and methods used to culture finfish and shellfish, with a primary focus on Canadian aquaculture species. Basic aspects of aquaculture will be covered, including the design and maintenance of production systems, culture techniques, and the nutrition, health, physiology and reproduction of finfish and shellfish. The laboratory portion of this course will provide students with practical experience in the maintenance of land-based aquaculture production systems and in the husbandry/culture of aquatic organisms.
Memorial	3002 Aquaculture and Fisheries Biotechnology	Science	Ocean Sciences Faculty of Science	an introduction to biotechnology and genetics as they are applied to aquaculture and fisheries. Topics covered include genetic variation; genetic structure of fish and shellfish populations; the genetic basis of aquaculture traits; finfish and shellfish genomic research; marker-assisted selection in aquaculture; manipulation of ploidy; genetic engineering in aquaculture; and techniques used to study the responses of aquatic animals to external stressors such as hypoxia, temperature stress, acidification, and pathogens.

Memorial	3600 Marine Microbiology	Science	Ocean Sciences Faculty of Science	covers physiological adaptations of animals facilitating their survival in natural environments with emphasis on physiological and biochemical responses of animals to extreme environments. Starting with the fundamental basis of physiological mechanisms, the course explores various aspects and the integration of major physiological processes (metabolism, respiration, osmoregulation) and how these relate to ecological niche.
Memorial	4000 Scientific Diving Methods		Ocean Sciences Faculty of Science	an in-depth study and application of methods routinely employed for data collection in underwater scientific research. Aspects covered include habitat mapping; installation and use of instrumentation; still and video camera techniques; planning and execution of surveys and experiments in major subtidal habitats; as well as data analysis and interpretation. Participants are trained in accordance with Memorial University of Newfoundland's Guide for Diving Safety and the Canadian Association for Underwater Science (CAUS) standards to meet the criteria for Scientific Diver I rating. This course is normally offered at the Ocean Sciences Centre in a special 2-week session at the beginning or end of the Spring semester.

Memorial	4122 Advanced Studies in Marine Animal Diversity		Ocean Sciences Faculty of Science	provides an in-depth examination of cellular, physiological, behavioural and ecological adaptations in marine animals. Lectures will be combined with discussions of relevant papers from the primary literature on topics of current interest which may relate morphology, ecology, evolution, natural history, species interactions and practical applications. Students will also gain hands-on experience by designing and conducting research projects involving live or preserved animals.
Memorial	4200 Marine Omics		Ocean Sciences Faculty of Science	provides an overview of marine genomics, transcriptomics, proteomics, glycomics, metabolomics, and lipidomics. Omics-based studies of a variety of marine organisms (e.g. fungi, algae, animals), as well as several industrial applications (e.g. biofuel, nutrigenomics, pharmacogenomics, aquaculture and fisheries), will be considered.
Memorial	4300 Climate Change and Global Marine Fisheries Dynamics	Science	Ocean Sciences Faculty of Science	explores the effects of ocean-atmosphere dynamics on large scale marine ecosystem domains, with a special focus on assessing the impact of anticipated climate change on global fisheries production. The course uses a blend of lectures and computer simulation laboratories to familiarize students with current research on fisheries and climate change.

Memorial	4400 Deep-Sea Ecology	Science	Ocean Sciences Faculty of Science	provides an overview of the physical and chemical environment of the deep sea, including hydrothermal vents and seeps, to explore adaptations in deep-sea organisms and biodiversity in this key oceanic system. The course combines lectures, seminars, discussions and computer-based laboratory tools, such as dive logs from remotely operated vehicles and data from underwater cabled observatories. It introduces students to emerging research, cutting-edge technologies, as well as natural and human impacts in the deep sea.
Memorial	4500 Experimental Marine Ecology	Science	Ocean Sciences Faculty of Science	a two-week intensive course that examines the ecology of cold oceans, focussing on energy flux through Newfoundland waters, and how the dynamics of this environment influence linkages among organisms in different habitats. The course is field and lab intensive, with lectures and a strong hands-on component. Students will collect field samples, identify local organisms from the plankton or the benthos, plan and conduct an experiment, and learn to interpret and present the gathered results. This course is offered during two weeks of the Spring or Fall semesters.
Memorial	4601 Functional Biology of Fish	Science	Ocean Sciences Faculty of Science	an introduction to anatomical, physiological and cellular processes in the life cycle of fishes.
Memorial	Estuarine Fish Ecology BIOL 3714	Science	Bonne Bay Aquarium and Research Station	
Memorial	3710 Biological Oceanography	Science	Biology	
Memorial	3711 Principles of Marine Biology	Science	Biology	

Memorial	3712 Benthic Biology	Science	Biology	
Memorial	3714 Estuarine Fish Ecology Field Course	Science	Biology	
Memorial	3715 Ecology and Evolution of Fishes	Science	Biology	
Memorial	4122 Advanced Studies in Marine Animal Diversity	Science	Biology	
Memorial	4601 Functional Biology of Fish	Science	Biology	
Memorial	4710 Experimental Marine Ecology	Science	Biology	
Memorial	4810 Research Field Course in Marine Biology	Science	Biology	
Memorial	3014 Biology and Ecology of Boreal and Arctic Seaweeds	Science	Biology	
Memorial	2610 Introductory Chemical Oceanography	Science	Chemistry	
Memorial	2919 Intro to Marine Geology	Science	Earth Sciences	
Memorial	4302 Advanced Marine Geology	Science	Earth Sciences	
Memorial	2300 Introductory Physical Oceanography	Science	Physics and Physical Oceanography	
Memorial	3300 Intermediate Physical Oceanography	Science	Physics and Physical Oceanography	
Memorial	4300 Advanced Physical Oceanography	Science	Physics and Physical Oceanography	
Memorial	6317 Underwater Acoustics	Science	Physics and Physical Oceanography	
Memorial	6318 Ocean Climate Modelling	Science	Physics and Physical Oceanography	
Memorial	8570 Coastal and Ocean Engineering	Engineering	Civil Engineering, Faculty of Engineering	

Memorial	8580 Subsea Pipeline Engineering	Engineering	Civil Engineering, Faculty of Engineering	
Memorial	8560 Offshore Structural Design	Engineering	Civil Engineering, Faculty of Engineering	
Memorial	7810 Renewable Energy Systems	Engineering	Electrical Engineering	
Memorial	3001 Ocean/Naval Design	Engineering	Ocean and Naval Architectural Engineering	
Memorial	3054 Ocean Engineering Hydrostatics	Engineering	Ocean and Naval Architectural Engineering	
Memorial	4007 Marine Materials	Engineering	Ocean and Naval Architectural Engineering	
Memorial	4011 Resistance and Propulsion	Engineering	Ocean and Naval Architectural Engineering	
Memorial	4020 Marine Fluid Dynamics	Engineering	Ocean and Naval Architectural Engineering	
Memorial	5020 Marine Propulsion	Engineering	Ocean and Naval Architectural Engineering	
Memorial	5022 Probability and Random Processes in Ocean Engineering	Engineering	Ocean and Naval Architectural Engineering	
Memorial	5034 Marine Vibrations	Engineering	Ocean and Naval Architectural Engineering	

Memorial	6002 Ship Structures I	Engineering	Ocean and Naval Architectural Engineering	
Memorial	6005 Floating Ocean Structures Design	Engineering	Ocean and Naval Architectural Engineering	
Memorial	6036 Dynamics of Ocean Vehicles	Engineering	Ocean and Naval Architectural Engineering	
Memorial	6046 Marine Engineering Systems	Engineering	Ocean and Naval Architectural Engineering	
Memorial	6055 Marine Cybernetics	Engineering	Ocean and Naval Architectural Engineering	
Memorial	700 Ocean Systems Design	Engineering	Ocean and Naval Architectural Engineering	
Memorial	7002 Ship Structures II	Engineering	Ocean and Naval Architectural Engineering	
Memorial	7003 Small Craft Design	Engineering	Ocean and Naval Architectural Engineering	
Memorial	7033 Marine Hydrodynamics	Engineering	Ocean and Naval Architectural Engineering	
Memorial	7036 Manoeuvring of Ocean Vehicles	Engineering	Ocean and Naval Architectural Engineering	

Memorial	7046 Marine Economics and Ship Construction	Engineering	Ocean and Naval Architectural Engineering	
Memorial	8000 Ocean and Naval Architectural Engineering Project	Engineering	Ocean and Naval Architectural Engineering	
Memorial	8034 Applied Acoustics	Engineering	Ocean and Naval Architectural Engineering	
Memorial	8046 Marine Engineerings II	Engineering	Ocean and Naval Architectural Engineering	
Memorial	8054 Advanced Marine Vehicles	Engineering	Ocean and Naval Architectural Engineering	
Memorial	8055 Design and Control of Unmanned Marine Vehicles	Engineering	Ocean and Naval Architectural Engineering	
Memorial	8074 Arctic Ocean Engineering	Engineering	Ocean and Naval Architectural Engineering	
Memorial	8075 Finite Element Analysis of Marine Structures	Engineering	Ocean and Naval Architectural Engineering	

Marine Institute	ASTK18213U The politics of maritime security in the Arctic	School of Maritime Studies	School of Maritime Studies	https://kurser.ku.dk/course/astk18213u/2018-2019 The course is a collaboration between Ilisimatusarfik, the University of Greenland, Memorial University of Newfoundland and University of Copenhagen and financially supported by the University of the Arctic (UArctic)
Marine Institute	Fishing Master IV		Through Nunavut Marine Training Consortium	Takes place in the Arctic https://nfmtc.ca/
Marine Institute	Small Vessel Operator Proficiency (SVOP)		Through Nunavut Marine Training Consortium	Takes place in the Arctic The holder of this course provides skills and knowledge to act as the operator of a commercial vessel up to five gross tonnage, other than tugs, and fishing vessels, and for fishing vessels up to 15 gross tonnage or 12 meters overall length engaged on a near coastal, class 2 or a sheltered waters voyage. https://nfmtc.ca/

Marine Institute	Helmsman		Through Nunavut Marine Training Consortium	<p>Takes place in the Arctic</p> <p>This training and assessment course comprises steering simulated ships under various environmental conditions and speeds, including slow speed maneuvering, as well as navigating at the support level for bridge personnel.</p> <p>https://nfmtc.ca/</p>
Marine Institute	Bridge Watch		Partnership between Miawpukek First Nation and MI	<p>The training is an initiative of the Miawpukek First Nation and the Marine Institute, in collaboration with Mi'kmaq Alsumk Mowimsikik Koqoey Association and Training and Economic Development.</p> <p>All student funding is through Skills and Participant Funding with Employment and Social Development Canada. The seven-month program provides 12 students with a combination of theoretical and practical experience through a combination of classroom lectures, hands-on seamanship skills and three weeks of safety training at the Offshore Safety and Survival Centre in Fox Trap, N.L.</p> <p>Students will also complete a minimum of 60 days of onboard training at sea.</p>

Marine Institute	Restricted Operator's Certificate – Maritime Commercial		Through Nunavut Marine Training Consortium	<p>Takes place in the Arctic</p> <p>This course provides participants with the knowledge and practical skills to effectively operate and communicate using the Global Maritime Distress and Safety System, as outlined in the International Maritime Organization's Resolution A 769 (18).</p> <p>https://nfmtc.ca/</p>
Marine Institute	Kisarvik		Through Nunavut Marine Training Consortium	<p>This program is specifically created for Nunavut and includes, a pre-training course that outlines types of marine activity, such as fishing industry (offshore, inshore and processing, cargo vessel, Canadian Coast Guard, etc), as it relates to Nunavut.</p> <p>https://nfmtc.ca/</p>
Labrador Campus	SASS 6000: Learning Labrador		School of Arctic and Subarctic Studies	<p>engages participants in the critical study of Innu, Inuit, and western knowledges and histories in what is now known as Labrador. This course is a combination of in-person intensives and virtual learning opportunities, taking place in the summer semester (starting in May).</p>
Labrador Campus	SASS 6001: People, Place, and Identity		School of Arctic and Subarctic Studies	<p>is an experiential and land-based course which examines how human identity is intricately intertwined with aspects of place in Arctic and Subarctic context. This course is structured to take place over three seasonally-based in person weekend intensives, over 3 different semesters.</p>

Labrador Campus	SASS 6002: Indigenous and Northern-Led Theories and Methodologies		School of Arctic and Subarctic Studies	is an Indigenous-led research methodologies course that provides an opportunity to explore strength-based, Indigenous- and Northern-led theories and methodologies. This course is virtual, and structured over a full semester in the Fall semester.
Labrador Campus	SASS 6003: Developing Research Partnerships in Arctic and Subarctic Contexts		School of Arctic and Subarctic Studies	an applied seminar-style course aimed at providing opportunities to develop research skills and research proposals, working with community partners. This course will be delivered over two semesters in a virtual part-time format.
Labrador Campus	SASS 6004: Arctic and Subarctic Indigenous Legal Traditions and Advocacy		School of Arctic and Subarctic Studies	is an experiential and land-based course examining Arctic and Subarctic legal traditions and how they can be applied during times of transitioning to self-governance and practicing self-determination. This course is a combination of in-person intensives and virtual learning opportunities.
Labrador Campus	SASS 6005: Systems for Health and Wellness in the Circumpolar North		School of Arctic and Subarctic Studies	examines the key issues in health policy, health system governance, and health equity in the Circumpolar North. This course is virtual, and structure over a full semester.