

## Certificate in Environmental Impact Assessment (2018/2019)

Offered by: Faculty of Science

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The **Certificate in Environmental Impact Assessment** is for students who are interested in, or majoring in environmental areas, and who wish to pursue additional training in EIA. This certificate is available to students in the Faculty of Science, Faculty of Arts and Social Sciences, Faculty of Management, and the College of Sustainability.

Students will learn to:

1. Apply a Project EIA Framework in the preparation of a Nova Scotia - based EIA.
2. Demonstrate an understanding of relevant federal and provincial (Nova Scotia) legislation.
3. Design a meaningful stakeholder participation program.
4. Use environmental impact and risk methodologies to accurately predict project impacts.
5. Design an Environmental Management Plan that includes: mitigation, enhancement, compensation, and monitoring.
6. Construct a follow-up plan for residual impacts and project accountability.
7. Prepare a Strategic Environmental Assessment (SEA) for a federal policy.

**Disclaimer:** This EIA Certificate was developed within Dalhousie University and it is not designed to fulfill any governmental and/or professional requirements outside of the university, in Canada or abroad.

### The Certificate requires a total of 24 credit hours as follows:

- Required EIA course: BIOL 4001.03/ENVS 4001.03 (3 credit hours) to be taken in fourth year.  
Note: transfer or online courses are not acceptable substitutes for this requirement.
- Introductory science, SUST, or IDS course (min 3 credit hours) from Table 1.
- Environmental courses with theoretical content from Table 2 (minimum 9 credit hours).
- Methods courses with field, laboratory, statistical, or modelling experience from Table 3 (minimum 3 credit hours)
- Supplementary courses in Major or Related Disciplines from Table 4 (minimum 6 credit hours).

**Students must obtain a minimum grade of B for all courses counted toward the certificate.** Classes cannot be substituted from one table to another. Discontinued courses are no longer available for registration, but can satisfy certificate requirements if they are on your transcript.

### Table 1. Introductory Courses Checklist (minimum of 3 credit hours from the following list)

- BIOL 2060.03: Introductory Ecology
- ENVS 1100.03: Foundations of Environmental Science
- ENVS 1200.03: Current Environmental Challenges
- EARTH 2410.03/ENVS 2410.03: Environmental Issues in Earth Science
- GEOG 2100X/Y.06/SOSA 2100X/Y.06: Environment and Culture
- INTD 2001.03/GEOG 2201.03: Introduction to Development 1
- INTD 2002.03/GEOG 2202.03: Introduction to Development 2
- OCEA 2000X/Y.06 (or OCEA 2001.03 + OCEA 2002.03): The Blue Planet
- SUST 2000.06: Local Governance, Citizen Engagement, and Sustainability
- SUST 2001.06: Environment, Sustainability and Governance: A Global Perspective

**Table 2. Theory-Based Courses Checklist (minimum of 9 credit hours from the following list)**

- BIOL 3060.03: Environmental Ecology
- BIOL 3061.03: Communities and Ecosystems
- BIOL 3062.03: Behavioural Ecology
- BIOL 3063.03/MARI 3063.03: Resource Ecology
- BIOL 3065.03: Conservation Biology
- BIOL 3601.03: Nature Conservation
- ECON 3335.03: Environmental Economics
- ENVS 3200.03: Introduction to Environmental Law
- ENVS 3301.03: Enterprise Sustainability
- ENVS 3501.03: Environmental Problem Solving I
- ENVS 3601.03/ERTH 3601.03: Global Biogeochemical Cycles
- EARTH 3401.03: Hydrogeology
- EARTH 3701.03/ENVS 3701.03: Fundamentals of Hydrology
- GEOG 3001.03/PLAN 3001.03: Landscape Ecology
- GEOG 3005.03/PLAN 3005.03: Cities and the Environment
- GEOG 3440.03/ERTH 3440.03: Geomorphology
- INTD 3114.03/GEOG 3114.03: Environment and Development
- MARI 3080.03/BIOL 3080.03: Ecology and Evolution of Fishes
- MARI 3090.03: Marine Mammalogy
- MARI 3602.03: Introduction to Aquaculture
- MARI 3761.03/BIOL 3761.03: Marine Ecology
- MGMT 3702.03: Resource and Environmental Problem Solving 2: Sustainable Industries
- OCEA 3001.03: Introduction to Physical Oceanography
- OCEA 3002.03: Introduction to Chemical Oceanography
- OCEA 3420.03/ERTH 3420.03: Geochemistry of the Aquatic Environment
- PLAN 3010.03: Urban Ecology
- SOSA 2261.03: Society, Politics and Culture
- SOSA 3060.03: Social Change and Development
- SOSA 3200.03: Environment and Society
- SUST 3000.03: Environmental Decision-Making

**Table 3. Field & Methods-Based Courses Checklist (minimum of 3 credit hours from the following list)**

- BIOL 2601.03: The Flora of Nova Scotia
- BIOL 2605.03: Marine Life of Nova Scotia
- BIOL 3003.03/MARI 3003.03/OCEA 3003.03: Introduction to Field Oceanography
- BIOL 3221.03/MARI 3221.03: Diversity of Algae
- BIOL 3301.03/MARI 3301.03: Invertebrate Biology
- BIOL 3327.03: Entomology
- BIOL 3600.03/MARI 3600.03: Aquaculture (discontinued)
- BIOL 3615.03/ENVS 3615.03: Methods in Ecology
- BIOL 3620.03: Field Survey of Terrestrial Biodiversity
- BIOL 3622.03: Ornithology

- BIOL 3623.03/ENVS 3623.03/MARI 3623.03: Applied Coastal Ecology
- BIOL 3624.03/ENVS 3624.03: Urban Freshwater Systems
- BIOL 3626.03/MARI 3626.03: Field Studies of Marine Mammals
- BIOL 3627.03/MARI 3627.03: Biology and Conservation of Sharks, Skates, and Rays
- BIOL 3628.03/MARI 3628.03: Marine Ornithology
- BIOL 3630.03: Field Methods in Animal Behaviour
- BIOL 3632.03/ENVS 3632.03/MARI 3632.03: Applied Field Methods in Fish Ecology
- BIOL 3633.03/ENVS 3633.03/GEOG 3633.03: Spatial Information and GIS in Ecology
- BIOL 3634.03: Agroforestry
- BIOL 3640.03: Tropical Ecology and Biodiversity Field Class
- BIOL 3664.03/ENVS 3664.03/MARI 3664.03: Intertidal Ecology and Diversity
- BIOL 3680.03/MARI 3680.03: Scientific Diving Methods for Marine Ecology
- BIOL 3762.03: Terrestrial Ecology
- BIOL 4061.03: Design of Biological Experiments
- BIOL 4062.03: Analysis of Biological Data
- BIOL 4080.03/MARI4080.03: Laboratory Studies of Fishes
- BIOL 4323.03/MARI 4323.03: Biologging in Ecology
- ENVS 2000.03: Urban Field School
- ENVS 2100.03: Environmental Informatics
- ENVS 3001.03: Environmental Science Field School
- ENVS 3225.03/BIOL 3225.03/PLAN 3225.03: Plants in the Human Landscape
- ENVS 3300.03: Contaminated Site Management
- ERTH 3402.03: Practical Hydrogeology (discontinued)**
- EARTH 3500.03/ENVS 3500.03/GEOG 3500.03: Geoscience Information Management
- EARTH 4002.03: Advanced Field School
- EARTH 4520.03/GEOG 4520.03: GIS Applications to Environmental and Geological Sciences
- EARTH 4530.03/GEOG 4530.03: Environmental Remote Sensing
- GEOG 2001.03/PLAN 2001.03: Landscape Analysis
- GEOG 2006.03/PLAN 2006.03: Space, Place and Geographic Information Systems
- INTD 3002.03: Development Practice
- INTD 3103.03: Participatory Development: Methods and Practice (discontinued)
- MARI 3603.03: Practical Aquaculture
- MARI 3685.03: The Gulf of Eilat Ecosystems: Coral Reef and Subtropical Sea
- MGMT 4507.03: Environmental Informatics
- OCEA 2020.03: Tools and Concepts in Ocean Science I
- OCEA 2021.03: Tools and Concepts II
- OCEA 4210.03: Time Series Analysis in Oceanography and Meteorology
- OCEA 4220.03: Numerical Modelling of Atmospheres and Oceans
- OCEA 4380.03: Marine Modelling
- SOSA 3096.03: Introduction to Demography
- SOSA 3403.03: Qualitative Field Methods
- SUST 3502.03/ENVS 3502.03: The Campus as a Living Laboratory **OR** MGMT 3701.03/SUST 3701.03: The Community as a Living Laboratory

**Table 4. Higher-level Supplementary Courses Checklist (min of 6 credit hrs from the following list)**

- BIOL 4060.03/MARI 4060.03: Evolutionary Ecology of Marine Mammals (discontinued)

- BIOL 4065.03: Sustainability and Complexity
- BIOL 4160.03: Political Ecology
- ENVS 3400.03/GEOG 3400.03: Environment and Human Health
- ENVS 4002.03/BIOL 4002.03: The Science of Wetland Ecosystems
- ENVS 4003.03/MARI 4003.03: Coral Reefs and Environmental Change
- ENVS 4004.03: Pathways to Sustainable Energy
- ENVS 4210.03: Administration Environmental Law (discontinued)
- ENVS 4220.03: International Environmental Law for Scientists (discontinued)
- EARTH 4410.03: Environmental Geoscience
- EARTH 4440.03: Geomorphology and Landscape Evolution (discontinued)
- EARTH 4450.03/GEOG 4450.03: Introduction to Landscape Simulation (discontinued)
- INTD 4013.03: Environmental Conflict and Security
- MARI 4090.03: Evolutionary Ecology of Marine Mammals
- MARI 4350.03: Cutting Edge in Marine Science
- MARI 4665.03: Hacking the Blue Planet
- MGMT 4031.03: Economics for Resource and Environmental Management
- MGMT 4047.03: Biodiversity and Conservation Systems and Management
- MGMT 4205.03: Law and Policy for Resource & Environmental Management
- MGMT 4504.03: Management of Resources and the Environment
- MGMT 4505.03: Biophysical Dimensions of Resource and Environmental Management
- OCEA 4000 4000.03: Oceans and Global Change
- OCEA 4110.03/ERTH 4110.03: Geological Oceanography
- OCEA 4120.03: Physical Oceanography
- OCEA 4130.03: Chemical Oceanography
- OCEA 4140.03/BIOL 4661.03/MARI 4661.03: Biological Oceanography
- OCEA 4160.03/BIOL 4369.03/MARI 4369.03: Fisheries Oceanography
- OCEA 4222.03: Estuary, Coast and Shelf Dynamics
- OCEA 4230.03/BIOL 4662.03/MARI 4662.03: Biology of Phytoplankton
- OCEA 4250.03: Acoustical Oceanography
- OCEA 4330.03/BIOL 4666.03/MARI 4666.03: Benthic Ecology
- OCEA 4335.03/BIOL 4335.03/MARI 4335.03: Environmental Impacts in Marine Ecosystems
- OCEA 4401.03: Marine Management I
- OCEA 4402.03: Marine Management II
- OCEA 4502.03: Introduction to Atmospheric Science
- OCEA 4595.03: Atmospheric Chemistry
- SUST 4000.06: ESS Capstone

