Description of Core Courses

As part of the Master of Earth and Energy Resources Leadership you will be required to take the following seven core courses:

EERL-801 Resource Life Cycle Overview
This course will progress through an overview of the entire resource life cycle for energy and mineral commodities. The geological nature of the resource itself, its role as a commodity, and environmental aspects associated with its development, will be considered. Concepts of sustainable resource management, including emphasis on other related natural resources, such as ground and surface water, will be studied.

EERL-802 Strategic Leadership in the Resource Sector
This course will be structured around four key elements of the role of a General Manager, applied specifically to the management and leadership tasks inherent in the Resource Sector: understanding business context and environment, providing direction and leadership, establishing priorities and meeting commitments, and leading change and innovation.

EERL-803 Economic Essentials for Mining and Oil and Gas – Part I
This course covers the basics of investment, financial analysis, project finance, and risk pertinent to the resource extraction industries. This includes investment opportunities, fundamentals of cash-flow analysis for decision making, risk analysis and project finance, and the relationship between projects and the enterprise.

EERL-804 Economic Essentials for Mining and Oil and Gas – Part II
This course will build on EERL-803 by broadening considerations from strictly financial measures to include integrated financial models which incorporate socio-economic and environmental considerations that are essential for decision making, stakeholder analysis, sustainable development, and negotiation and social license to operate.

EERL-805 Operating Effectively: Law, Policy, Regulation and Ethics
This course focuses on current and emerging legal, policy, and ethical issues at each stage of the resource discovery, acquisition, extraction, and closure process. Students will improve their understanding of land and resource rights; Indigenous rights; corporate governance and social responsibility; climate change, environmental, and resource regulation; permitting; community engagement and social license to operate; capital raising and disclosure obligations.

EERL-806 Communication, and Partnerships: Stakeholder Engagement Strategies
This course will address conflict management, leadership, and teambuilding strategies, while fostering collaborative efforts and working practically on implementing communication plans. The goal is to develop skills to address a multi-stakeholder business environment in the resource sector.

EERL-807 Technology and Innovation
This course will address the key technological advances that are profoundly affecting the earth resources sector. Design thinking, systems thinking, and futures thinking will be used to examine what technology is, explore the complex industry challenges, and to rethink our approach to technology, innovation, and leadership. This course challenges students to reframe their jobs, their relationship to technology, and their approach to leadership and innovation.
Description of Elective Courses

As part of the Master of Earth and Energy Resources Leadership you will be required to take three of the following elective courses:

**EERL-808 Minerals Life Cycle Track**
This course is an in-depth study of the minerals life cycle, considering resource aspects of geoscience and engineering, along with social, environmental, business, and economic attributes, in an integrated manner. Both technical and non-technical risk aspects, and concepts of sustainability will be considered.

**EERL-809 Energy Life Cycle Track**
This course is an in-depth study of the energy resources life cycle, including exploration, development, processing, marketing, and transport process. Topics will focus on conventional and unconventional petroleum resources. Resource, business, and economic aspects will be examined in an integrated manner, and technical and non-technical risk will be considered. Field/site visit fee may apply.

**EERL-810 Field-Based Synthesis**
This course will provide intensive analysis of a case example that is an actual resource development challenge related to either energy or mineral development, or both. Students will work in teams, as part of a field and/or site visit for approximately one week duration. Field trip fee will apply.

**EERL-811 Sector-Focused Project**
This course provides flexibility for the student to focus on a topic of interest that is related to the content of the program, but not directly address other course work. A student may bring a pertinent challenge from their work setting or a project idea can be developed in consultation with the Program Director and program faculty. All project plans must receive approval of the Program Director prior to commencing this course.