MSIT COURSE DESCRIPTIONS (originals*)

* from documentation approved by Cape Breton University's (then "University College of Cape Breton's") Academic Council and Board of Governors in June 1999 plus the Maritime Provinces Higher Education Commission (MPHEC) in February 2001 ... for the Bachelor of Science Community Studies (BScCS) degree's concentration "Integrative Science"

Descriptions (see following pages) for:

1) compulsory MSIT courses within BScCS Integrative Science concentration
   - MSIT 101/103 Sense of Place, Emergence, & Participation
   - MSIT 201/203 Ways of Knowing
   - MSIT 301/303 Cycles and Holism
   - MSIT 401/403 Wholeness: health and healing

2) elective MSIT courses (any degree, as appropriate)
   - MSIT 211 Ecosystems of Cape Breton (cross-listed as Biol 211)
   - MSIT 221 Waters, Soils, Minerals, and Climate
   - MSIT 231 Animals of the Land
   - MSIT 241 Animals of the Rivers, Lakes, and Sea
   - MSIT 241 Animals of the Rivers, Lakes, and Sea
   - MSIT 251 Plants 1: Applied Botany
   - MSIT 351 Plants 2

MS~~I~~T 101/103 Sense of Place, Emergence, & Participation

Credits: 3+3 with labs

Prerequisite: none, but intended to be taken concurrently with MS~~I~~T 201/203.

Mi'kmaw world view: This course will provide an opportunity for students to appreciate Creation and attain skills to restore the traditional thought of co-existence, recognizing that balance and harmony are embodied in First Nations' traditions, and that First Nations' perspectives on the environment reflect consciousness and therefore create attitudes. The Mi'kmaw language will be discussed, along with the spiritual ecology, mythical, and environmental foundations of Indigenous education (*sensu* Cajete).

Western science: Discussion will focus on the brain basis of human consciousness, how "things" in the external environment are detected, the importance of pattern recognition by the brain, the occurrence of patterns in Nature, and the scientific pursuit to understand Nature=s patterns. Insights into human consciousness as provided by the biophilia hypothesis, multiple intelligences theory, and integral psychology will be mentioned.

MS~~I~~T 201/203 Ways of Knowing

Credits: 3+3 with labs

Prerequisite: none, but intended to be taken concurrently with MS~~I~~T 101/103.

Mi'kmaw world view: This course will provide an opportunity for students to appreciate that Spiritual connectedness is deeply embedded in First Nations' thought, and that the Mi'kmaw world view is one pathway towards this understanding. Traditional Ecological Knowledge will be discussed, along with the visionary, artistic, affective, and communal foundations of Indigenous education (*sensu* Cajete).

Western science: The importance of asking questions in the scientific pursuit to understand Nature will be discussed, along with the major questions asked by modern cosmology, physics, chemistry, geology and biology. Emphasis will be placed on the connectedness found within their answers, using a parts and wholes approach to understanding patterns in Nature and in science.

MS~~I~~T 301/303 Cycles & Holism

Credits: 3+3 with labs

Prerequisite: previous MS~~I~~T courses, or permission of instructor

Mi'kmaw world view: This course will explore First Nation's views on the cycles of life and life forms, with emphasis towards education as the tool to investigate and respect the cosmological forces that influence thought. Varieties of energy and energy forces in natural cycles and patterns will be discussed.

Western science: Cycles, rhythms, and transformations in Nature will be discussed using a complex systems science approach (parts and wholes, and evolutionary change). Examples will be drawn from various natural phenomena in internal and/or external environments, with special attention given to issues in Atlantic Canada.

MSIT 401/403 Wholeness: health and healing

Credits: 3+3 with labs

Prerequisite: previous MSIT courses, or permission of instructor

Mi'kmaw world view: This course will offer the belief instilled in First Nations' thought that everything comes from a single whole and that there is consistent change or flux. There are two kinds of changes (the coming together of things and the coming apart of things); both are necessary and all things are interrelated with everything connected. The four human aspects (mental, physical, emotional, and spiritual) must be in balance and harmony for one to be whole and therefore healthy; this process is also evident in all of Creation.

Western science: The concepts of wholeness and change will be discussed using the topics of health, healing, and evolution at the organismal, population, and ecosystem levels.

MSIT 211-251 and MSIT 351 Organisms & Ecosystems (Biodiversity)

The suite of courses MSIT 211-251 and MSIT 351 form a collective entitled "Organisms & Ecosystems." One description of the Mi'kmaw conceptual world view serves for all these courses, whereas a separate description of the Western science is provided for each.

Credits (each course): 3 with labs

Prerequisites: previous MSIT courses, or permission of instructor

Mi'kmaw world view: These courses will offer the First Nations' understanding that the Natural World and all of her resources are immersed in sacredness. Although there is much diversity one must educate oneself that there is a direct and enduring relationship with the environment. There must be a realization that we are one, connected and part of the Great Scheme.

MSIT 211 Ecosystems of Cape Breton (cross-listed as Biol 211 Ecosystems of Cape Breton)

Western science: This course will explore the major ecosystems and biological communities of Cape Breton: Acadian forest, taiga, peatlands, rocky intertidal, beaches, rivers, and lakes. Questions to be asked for each unit include, for example, how the physical environment has shaped it, what the critical component species are, and what the historical changes have been. The understanding of how each community functions will help in assessing the impact of logging, acid precipitation, oil spills, land use changes, and other possible challenges to the integrity of the communities in the future. Field trips.

MSIT 221 Waters, Soils, Minerals, and Climate

Western science: The weather, rocks, soils, hills, and valleys that make up the physical environment shape the lives of the plants, animals, and people of Cape Breton. Emphasis will be on the geological origin of Cape Breton Island and how weathering and the changing climate have modified it into what we see today. Field trips will examine evidence left by recent storms, historic glaciers, and prehistoric continental movements.

MSłT 231 Animals of the Land

Western science: This course will examine the terrestrial animals that are integral to the functioning of Cape Breton ecosystems and that are important in the spirituality of the Mi'kmaw. These will range from eagles to black flies, from bears to spiders. For each species, way of life, relationships to other organisms, present distribution and population, economic value, as well as its historical context and future prospects on Cape Breton Island will be examined. Field trips.

MSłT 241 Animals of the Rivers, Lakes, and Sea

Western science: This course will examine the aquatic and marine animals that are integral to the functioning of Cape Breton ecosystems and that are important in the spirituality of the Mi'kmaw. These will range from whales to lobsters, from eels to salmon, from seals to snails. For each species, way of life, relationships to other organisms, present distribution and population, economic value, as well as its historical context and future prospects on Cape Breton Island will be examined. Field trips.

MSłT 251 Plants 1 (Applied Botany)

Western science: Vegetation is the biological substrate on which most terrestrial organisms depend. The vascular plant families of our Acadian bioregion will be studied. The ethnobotany of Mi'kmaw First Nations will be considered: plants for food and drink, medicines, tools and other uses, both practical and artistic, which are pertinent to Indigenous life-styles. Emphasis will be placed on acquiring this knowledge in the field and visiting the various habitats characteristic of Acadian forest ecosystems.

MSłT 351 Plants 2

Prerequisite: MSłT 251

Western science: The study of Acadian forest systems will continue with an in-depth view of plant assemblages and the relationship to habitat, process, structure, and function. Studies will be extended to the non-vascular plants. Relationships and differences between major plant divisions and plant-animal interactions will be considered. Emphasis will be placed on acquiring this knowledge in the field.