Prepared: Brian Anstess Approved: Sherri Smith

Course Code: Title	NET256: RENEWABLE ENERGY SITE DEVELOPMENT
Program Number: Name	5220: NAT ENVIRONMENT TN
Department:	NATURAL RESOURCES PRG
Semester/Term:	18W
Course Description:	Renewable Energy Site Development provides background on the utilization of natural resources for Energy. Fundamental energy principles, history, and current trends are the foundations of the course. This transitions to a study of the effects human lifestyles have on energy demand and how this relates to global sustainability. Merits of various renewable energy power sources will be considered along with the drawbacks, to provide an overall view. Students will consider appropriate legislation while assessing site specific criteria for energy development. Relevant software including the application of GIS will assist to identify potential site locations for future renewable energy projects. Public consultation, natural heritage assessments, and post construction monitoring will be key themes.
Total Credits:	2
Hours/Week:	2
Total Hours:	30
Substitutes:	NET211
Vocational Learning Outcomes (VLO's): **Please refer to program web page for a complete listing of program outcomes where applicable.**	#2. Utilize natural resources equipment and technology to accurately identify ecosystem components for purposes of conserving and managing natural resources. #3. Apply the basic concepts of science to natural resource conservation and management. #4. Conduct natural environment assessments according to standard field survey methods, including the use of appropriate equipment and materials. #7. Work safely in adherence to occupational health and safety standards. #9. Contribute to the implementation of natural resource conservation and management. #11. Communicate technical information accurately and effectively in oral, written and visual forms. #13. Apply awareness of global environmental issues to conservation and management of natural resources.
Essential Employability	#1. Communicate clearly, concisely and correctly in the written, spoken, and visual form that

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Skills (EES):	fulfills the purpose and meets the needs of the audience. #3. Execute mathematical operations accurately. #4. Apply a systematic approach to solve problems. #5. Use a variety of thinking skills to anticipate and solve problems. #6. Locate, select, organize, and document information using appropriate technology and information systems. #7. Analyze, evaluate, and apply relevant information from a variety of sources.
General Education Themes:	Social and Cultural Understanding Science and Technology
Course Evaluation:	Passing Grade: 50%, D

Evaluation Process and Grading System:

Evaluation Type	Evaluation Weight
Assignments and Labs	60%
Final Test	20%
Mid Term Test	10%
Participation	10%

Course Outcomes and Learning Objectives:

Course Outcome 1.

Understand the history and use of energy in society and the threats associated with the present trends in energy use and consumption.

Learning Objectives 1.

- Describe Canada's role in global energy production and consumption and compare to other global countries.
- Show which forms of energy and energy use patterns we are currently consuming that could be more efficiently applied to the various energy use sectors.
- List the present energy types and the key consumers and describe how and which are the most efficient and have the greatest opportunity for conservation.

Course Outcome 2.

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Explain and demonstrate an understanding of essential energy concepts.

Learning Objectives 2.

- Identify and describe the different energy measurement terminologies and their interrelationship to energy use and data collection and analysis.
- Identify the different forms of energy and the different ways they are transformed, transferred and used.
- Identify the three pillars of energy conservation and key factors effecting energy use.
- Understand how these transformations can relate to conservation efforts in industrial, commercial, residential and transportation applications.

Course Outcome 3.

Describe laws and guidelines available to support energy conservation and renewable energy technologies.

Learning Objectives 3.

- Outline the major components of the Green Energy Act.
- Demonstrate knowledge of the FIT and Microfit Programs.
- Discuss additional incentives and opportunities available in the renewable energy field.

Course Outcome 4.

Understand the different ways that energy is produced to meet demand.

Learning Objectives 4.

- Distinguish between alternative, renewable and non-renewable energy technologies.
- Describe the resources involved with these technologies.
- Evaluate pros and cons of various energy technologies.
- Perform a cost benefit analysis of energy technologies.
- Utilize appropriate software to perform an analysis.

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Course Outcome 5.

Identify ways to apply the Natural Environment Technician/Technologist skill set to a career in renewable energy.

Learning Objectives 5.

- Conduct field surveys for Natural Heritage Assessments and post construction monitoring.
- Evaluate the feasibility / viability of a renewable energy installation on a specific site.
- Utilize relevant software for site analysis.

Date:	Thursday, August 31, 2017
	Please refer to the course outline addendum on the Learning Management System for further information.