SAULT COLLEGE

SAULT STE. MARIE, ONTARIO

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COURSE OUTLINE

COURSE TITLE: Naturalizing Urban Environments

CODE NO. : NET 207   **SEMESTER:** 3

PROGRAM: Natural Environment Technician/Technologist

AUTHOR: Elisa Muto, M.Sc.

DATE: June 2016   **PREVIOUS OUTLINE DATED:** June/15

APPROVED:

       'Colin Kirkwood'   June 2016

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          VP Academic   **DATE**

TOTAL CREDITS: 3

PREREQUISITE(S): None

HOURS/WEEK: 3

I.   COURSE DESCRIPTION:

Due to the rapid pace of urbanization, the benefits of healthy green infrastructure in cities is increasingly recognized and in demand. This course explores the social, economic and environmental impacts of urbanization and introduces strategies to reconnect people and incorporate nature back into cities. Topics in urban forestry and approaches for sustainable greenspace management in urban areas will be a major focus. Students will conduct an urban tree inventory and will perform the steps necessary to plan a naturalization project for a local urban greenspace. Emphasis will be on the promotion of native plant community assemblages and wildlife biodiversity.

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1.   Discuss current and historical trends in land use and the resulting social, economic and environmental impacts in urban areas.

    Potential Elements of the Performance:
    - Define urban sprawl and appreciate the forces that contribute to sprawling patterns in cities.
    - Explain how human population growth in cities is predicted to further influence land use and development.
    - Discuss the social, economic and environmental impacts of land use and development in cities.
    - Discuss current human attitudes towards nature in cities.
    - Identify government and municipal responses to urban development.

2.   Describe the urban ecosystem and understand the conditions that influence the ability for species to inhabit cities.

    Potential Elements of the Performance:
    - Define urban ecology and describe the urban landscape.
    - Apply the principles of ecology to urban ecosystems.
    - Understand ecosystem services and how these are important to the health, resiliency and biodiversity of urban ecosystems.
    - Compare/contrast urban and natural environments with respect to climate, hydrology, soil condition, plant and animal community composition and trophic dynamics.
    - Discuss the challenges and limitations presented by urban ecosystems and how some flora and fauna adapt to these

conditions.

3.   Demonstrate an understanding of naturalization in an ecological context and describe methods and strategies used to restore the ecological components of urban landscapes.

Potential Elements of the Performance:
- Define and explain naturalization concepts.
- Differentiate among relevant terminology (e.g. naturalization, restoration, rehabilitation, naturalized, novel ecosystem, etc.).
- Understand concepts in landscape ecology.
- Discuss approaches to naturalize urban ecosystems.
- Recognize the variety of green spaces in urban environments.
- Discuss the benefits and barriers associated with naturalization projects.
- Discuss approaches to educate people and promote community involvement.

4.   Perform the steps necessary to prepare a site plan for an urban naturalization project.

Potential Elements of the Performance:
- Conduct a site inventory to obtain information on existing vegetation and wildlife, soil conditions, microclimate, slope, topography, etc.
- Evaluate site characteristics and identify project goals and objectives.
- Prepare a site plan to identify areas where naturalization projects may be implemented.
- Research and identify potential naturalization techniques.
- Provide recommendations for site improvement.
- Research and select native plant communities suitable for the local site conditions.

5.   Appreciate the value of urban forests and identify the main components of an urban forest management plan.

Potential Elements of the Performance:
- Discuss the economic, social and ecological values of healthy urban forests and street trees.
- Outline the goals and objectives of an established urban forest management plan.
- Identify the major challenges and potential solutions in urban forestry.

- Conduct a tree inventory.
- Analyze and interpret tree inventory data to determine tree density, species composition and general condition of health.
- Research and provide recommendations for a forest management strategy.

6. Evaluate employment opportunities in urban environments.

   Potential Elements of the Performance:
   - Research potential employers offering natural environment related positions in urban areas.
   - Summarize the different types of natural environment jobs that are available in urban areas.
   - Identify specific knowledge and skill sets required for employment in urban environments.

III.   TOPICS:

1. Social, economic and environmental impacts of land use and approaches to combat sprawling patterns in cities
2. The urban environment – urban ecology
3. Introduction to naturalization – concepts, challenges and benefits
4. Principles of landscape ecology
5. Ecological approaches to naturalizing green spaces in urban environments and promotion of native plant community assemblages
6. Urban forestry
7. Employment opportunities in urban environments

IV   REQUIRED RESOURCES/TEXTS/MATERIALS:

Hardhat, reflective vest, rubber boots, safety boots, rain gear, clipboard, pencils

ADDITIONAL RESOURCES (Recommended):

Chambers et al. 1996. **Forest Plants of Central Ontario.** Lone Pine Publishing

V.   EVALUATION PROCESS/GRADING SYSTEM:

Midterm Test	**15%**
Final Test	**20%**
Assignments	**50%**
Attendance and Participation	**15%**
	100%

The following semester grades will be assigned to students:

Grade	Definition	Grade Point Equivalent
A+	90 – 100%	4.00
A	80 – 89%	
B	70 - 79%	3.00
C	60 - 69%	2.00
D	50 – 59%	1.00
F (Fail)	49% and below	0.00

CR (Credit)	Credit for diploma requirements has been awarded.
S	Satisfactory achievement in field /clinical placement or non-graded subject area.
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course.
NR	Grade not reported to Registrar's office.
W	Student has withdrawn from the course without academic penalty.

If a faculty member determines that a student is at risk of not being academically successful, the faculty member may confidentially provide that student's name to Student Services in an effort to help with the student's success. Students wishing to restrict the sharing of such information should make their wishes known to the coordinator or faculty member.

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VI.   SPECIAL NOTES:

Attendance:
Sault College is committed to student success. There is a direct correlation
between academic performance and class attendance; therefore, for the benefit
of all its constituents, all students are encouraged to attend all of their scheduled
learning and evaluation sessions. This implies arriving on time and remaining for
the duration of the scheduled session.

Late Assignments:
Assignments and report values will be reduced at a rate of **10% per day** for late
submissions for a period of 5 days after the due date. After 5 days, the
assignment/report value will be zero.

Instructor Contact:
The instructor cannot guarantee responses to questions in the 24-hour period
prior to assignment deadlines and tests via phone message or email.

VII.   COURSE OUTLINE ADDENDUM:

The provisions contained in the addendum located in D2L and on the
portal form part of this course outline.