

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ONTARIO**



Sault College

**COURSE OUTLINE**

**COURSE TITLE:** PLANT DIVERSITY  
**CODE NO. :** NET 251 **SEMESTER:** 1  
**PROGRAM:** NATURAL ENVIRONMENT TECHNOLOGIST  
**AUTHOR:** PETER GAGNON R.P.F.  
**DATE:** JULY 2010 **PREVIOUS OUTLINE DATED:**  
**APPROVED:** "B.Punch"

	Chair	DATE
<b>TOTAL CREDITS:</b>	3	
<b>PREREQUISITE(S):</b>		
<b>HOURS/WEEK:</b>	3	

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**I. COURSE DESCRIPTION:** Plant Diversity is designed to teach students the skills necessary to identify plants and recognize their particular habitat. The course will do this by emphasizing two distinct disciplines: plant taxonomy and plant ecology. Students will be expected to demonstrate understanding of topics such as classification, nomenclature, recognition of plant families, the ability to use plant keys, plant species habitats and distribution, and plant collection and herbarium preparations.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

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

1. Understand Plant Families, Classification and Keys to identifying different plant specimens

Potential Elements of the Performance:

- Develop an understanding of the binomial system of plant nomenclature
- Appreciate the role of botanists in advancing the knowledge and science of botany
- Demonstrate a familiarity with the plant families, genus and species
- Use scientific nomenclature when identifying selected plants

2. Introduce students to plant biology, diversity and ecology

Potential Elements of the Performance:

- Research botanical and ecological information using the internet
- Identify and describe the distribution of a range of plant families and their habitats
- Select a plant family and describe its presence in four different ecosystems
- Demonstrate knowledge of the ecosystem classification system and its relationship to plants in Ontario

3. Have a thorough understanding of plant morphology and its relationship to plant taxonomy

Potential Elements of the Performance:

- Identify and describe the morphological features – Stems,

Leaves, Flowers, Fruits and Seeds of plants used in plant identification

- Identify the functions of these components
  - Demonstrate how these features can be used to develop identification skills
  - .Apply their knowledge of the tools – dichotomous keys – used to identify plants in the field
4. Have a thorough understanding of the different classes of plants (vascular and non-vascular) and their various terminologies and relationships. Students will be asked to recognize a minimum 50 common plant species and know common and latin nomenclature.

Potential Elements of the Performance:

- Apply their identification skills to properly identify flora of the region including representation from woody and herbaceous higher plants (Angiosperms and Gymnosperms) to Pteridophytes (ferns and club mosses), Graminoids (grasses, sedges and rushes), Bryophytes (mosses and lichens)
- Prepare a collection of flora of the region consisting of a minimum - 5 Mosses, 5 Grasses, 5 Sedges, 5 Lichens, 5 Shrubs, 5 Herbs, 1 Tree Liverwort and 1 Log or Stump, & 5 Wetland Plants

**III. TOPICS:**

- 1. In the field and the lab identify a complete range of forest and wetland plants including: shrubs, herbs, ferns, mosses, grasses and sedges and rushes, club mosses and liverworts, horsetails, aquatic and wetland plants, lichens and their respective ecosystem.**
- 2. Plant Classification, Systematics, Nomenclature, Plant Families and Keys**
- 3. Morphology of Vascular and Non-vascular Plants**
- 4. Plant Diversity – History, Habitats and Distribution**
- 5. Bryophytes, Graminoids, Pteridophytes, Spermatophytes, Pinophyta or Gymnosperms, Monocots et al.,**
- 6. Herbaria – Prepare a herbaria of a comprehensive selection of regional plants representing a range of ecosystem types – specimens shall be labelled with herbarium required information including : common and scientific names, family, description including size, leaf type and arrangement, flower and fruit description, location collection date, collector**

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

**“Forest Plants of Central Ontario” – Chambers, Legacy, Bentley**  
**“Wetland Plants of Ontario” Newmaster, Harris, Kershaw**  
**“Field Guide to Forest Ecosystems of Central Ontario”**  
**“Orchids of Grey and Bruce Counties” Owen Sound Field Naturalists**  
**“Newcombes Wildflower Guide”**  
**“Guide to the Ferns of Grey and Bruce County”**  
**Optional Readings**

**“Ferns of Northeastern and Central North America” Peterson Field Guide**  
**“Plants of the Western Boreal Forest & Aspen Parkland” Johnson, Kershaw, Pojar, MacKinnon**  
**“Shrubs of Ontario” Soper and Heinburger**

**V. EVALUATION PROCESS/GRADING SYSTEM:**

<b>Reading and Web Assignments</b>	<b>3 @ 10%</b>	<b>30%</b>
<b>Test</b>		<b>15%</b>
<b>Herbarium</b>		<b>30%</b>
<b>Final Plant I.D. Test</b>		<b><u>25%</u></b>
<b>Total</b>		<b>100%</b>

The following semester grades will be assigned to students:

<b>Grade</b>	<b><u>Definition</u></b>	<i>Grade Point Equivalent</i>
A+	90 – 100%	4.00
A	80 – 89%	3.00
B	70 - 79%	2.00
C	60 - 69%	1.00
D	50 – 59%	0.00
F (Fail)	49% and below	
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical	

U	placement or non-graded subject area. 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.

## 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.

Since many of the assignments will be made after receiving classroom instruction, those students not in attendance will not be considered eligible to perform the assignment and a 0 grade will be given. Unless the student has contacted the instructor in advance with a legitimate excuse.

## VII. COURSE OUTLINE ADDENDUM:

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