SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: Forest Renewal

CODE NO. :   NRT 241   **SEMESTER:**   4

PROGRAM: Forest Technician

AUTHOR: Mark Harvey

DATE: Dec.2009   **PREVIOUS OUTLINE DATED:**   Dec.2008

APPROVED:

"B. Punch"

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                          CHAIR   **DATE**

TOTAL CREDITS: 3

PREREQUISITE(S):   none

HOURS/WEEK: 3

I.   COURSE DESCRIPTION:

This is a companion course to NRT 200 Silviculture. Units covered in this course are. Forest Tending, Forest Nursery Operations, Forest Tree Planting and Tree Improvement,

II.   LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:
1 ,Be able to participate in carrying out silvicultural operations
2, Assist in planning silvicultural operations
3, Identify key legislation applicable to practicing silviculture in Ontario
4, Implement extensive , intensive and elite silvicultural practices in
   compliance with the Crown Forest Sustainability Act

1   Plan and conduct Tending operations
     Potential Elements of the Performance:
       - Plan juvenile spacing operations
       - Plan pre commercial and commercial thinning and spacing operations
       - Write crop plans for jack pine and white spruce
       - Calculate optimal live crown ratios for pruning operations
       - List factors to consider when determining the feasibility of conducting pruning , thinning operations
       - List and describe how spacing can affect forest tree growth
     This learning outcome will constitute 15% of the course grade

2.   Apply pesticides and conduct pest management activities in full compliance of all federal and provincial laws and in an environmentally responsible manner
     Potential Elements of the Performance:
       - Identify and list vegetation competitor species
       - Demonstrate knowledge of silvics of competitor species
       - Write prescriptions for controlling competitors in forested areas
       - Show a clear understanding of federal and provincial legislation as it applies to pest management activities in forestry
       - List properties and characteristics of pesticides registered for forest use in Canada
       - Successfully complete pesticide mixing problems
       - Describe pesticide application techniques and equipment
       - Demonstrate a complete understanding of pesticide environmental

and human health hazards
- Link specific forest pesticides to their chemical properties , relative toxicities, and method of application.
- List and compare non chemical to chemical methods of pest management used in forestry
- Develop an integrated forest pest management plan

This learning outcome   will constitute   20% of the

3.   Demonstrate ability to grow crops of forest tree seedlings in a nursery and show ability to conduct business with private sector tree seedling production facilities
Potential Elements of the Performance:
- List production techniques used in bareroot nurseries
- List production techniques used in container nurseries
- Assess seedling quality using statistically   sound sampling procedures
- Grow 4-8 species of containerized tree seedlings from seed
- List key elements of a seedling grower contract
- Visit a local tree seedling production facility
- Assist in the operation of the college containerized tree seedling greenhouse.
- Identify 25 or   more forest tree seed species and associated fruiting structures
- Develop tree seedling growing contracts

This learning outcome will constitute 30% of the course grade

4.   Demonstrate the ability to conduct and administrate an operational tree plant
Potential Elements of the Performance:
- Select planting stock to meet specific forest regeneration objectives
- Develop contracts for the production and planting of planting stock
- Integrate tree planting with other forest management activities
- Demonstrate the proper care and handling of planting stock
- Demonstrate the proper use and care of tree planting equipment
- List and identify operational tree plant strategies including microsite selection, spacing, planting technique, selection of tools and planting faults
- Describe a minimum of 2 planting assessment procedures

This learning outcome will constitute 20% of the course grade

5.   List and define selected principals and practices used in tree improvement

Potential Elements of the Performance:
- Identify tree seed zones and the effects of provenance

- Identify plus tree characteristics
- Collect scions
- Graft conifer tree grafting stock using the side veneer graft
- List and describe the reasons for setting up a seed orchard
- Briefly describe the theoretical basis for tree improvement
- List the characteristics of clonal and seedling seed orchards
- Define the purpose for and the design of a family test plot

This learning outcome will constitute 15% of the course grade

III.   TOPICS:

1. Seed and cone identification
2. Forest tending operations
3. Forest nursery stock production
4. Tree planting
5. Tree improvement

IV.   REQUIRED RESOURCES/TEXTS/MATERIALS:

NRT241 Study guide and lab manual

V.   EVALUATION PROCESS/GRADING SYSTEM:

Tree crop & grafting	15%
Greenhouse work term	5
Seed and cone test	10
Test	20
Lab reports and field trips	25
Guest speaker summaries	10
Attendance	15
Total	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.

VI.   SPECIAL NOTES:

Course Outline Amendments:
The professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Retention of Course Outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Prior Learning Assessment:
Students who wish to apply for advance credit transfer (advanced standing) should obtain an Application for Advance Credit from the program coordinator (or the course coordinator regarding a general education transfer request) or academic assistant. Students will be required to provide an unofficial transcript and course outline related to the course in question. Please refer to the Student Academic Calendar of Events for the deadline date by which application must be made for advance standing.

Credit for prior learning will also be given upon successful completion of a challenge exam or portfolio.

Substitute course information is available in the Registrar's office.

Disability Services:
If you are a student with a disability (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your professor and/or the Disability Services office. Visit Room E1101 or call Extension 2703 so that support services can be arranged for you.

Communication:
The College considers **WebCT/LMS** as the primary channel of communication for each course. Regularly checking this software platform is critical as it will keep you directly connected with faculty and current course information. Success in this course may be directly related to your willingness to take advantage of the **Learning Management System** communication tool.

Plagiarism:
Students should refer to the definition of "academic dishonesty" in *Student Code of Conduct*. A professor/instructor may assign a sanction as defined below, or make recommendations to the Academic Chair for disposition of the matter. The professor/instructor may (i) issue a verbal reprimand, (ii) make an assignment of a lower grade with explanation, (iii) require additional academic assignments and issue a lower grade upon completion to the maximum grade "C", (iv) make an automatic assignment of a failing grade, (v) recommend to the Chair dismissal from the course with the assignment of a failing grade. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Student Portal:
The Sault College portal allows you to view all your student information in one place. **mysaultcollege** gives you personalized access to online resources seven days a week from your home or school computer. Single log-in access allows you to see your personal and financial information, timetable, grades, records of achievement, unofficial transcript, and outstanding obligations. Announcements, news, the academic calendar of events, class cancellations, your learning management system (LMS), and much more are also accessible through the student portal. Go to https://my.saultcollege.ca.

Electronic Devices in the Classroom:
Students who wish to use electronic devices in the classroom will seek permission of the faculty member before proceeding to record instruction. With the exception of issues related to accommodations of disability, the decision to approve or refuse the request is the responsibility of the faculty member. Recorded classroom instruction will be used only for personal use and will not be used for any other purpose. Recorded classroom instruction will be destroyed at the end of the course. To ensure this, the student is required to return all copies of recorded material to the faculty member by the last day of class in the semester. Where the use of an electronic device has been approved, the student agrees that materials recorded are for his/her use only, are not for distribution, and are the sole property of the College.

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.

Tuition Default:
Students who have defaulted on the payment of tuition (tuition has not been paid in full, payments were not deferred or payment plan not honoured) as of the first week of, March will be removed from placement and clinical activities. This may result in loss of mandatory hours or incomplete course work. Sault College will not be responsible for incomplete hours or outcomes that are not achieved or any other academic requirement not met as of the result of tuition default. Students are encouraged to communicate with Financial Services with regard to the status of their tuition prior to this deadline to ensure that their financial status does not interfere with academic progress.

Participation and attendance
This is an important aspect of this course and will be reflected in the final grade. Students may miss some or all of 2 scheduled 3 hour classes with-out penalty. Further absence will result in a deduction of 5 marks per missed class up to a maximum of 15 marks. Students must be present for the beginning and end of a class to be counted as present.