

FORESTRY

SECTION J: SAMPLE STUDENT LEARNING GUIDES

The following pages provide background information, strategies and a template for developing student learning guides. Also included at the end of this section are several sample student learning guides for Forestry.

A student learning guide provides information and direction to help students attain the expectations defined in a specified CTS course. It is designed to be used by students under the direction of a teacher.

Many excellent student learning guides (SLGs) are available for use and/or are in the process of being developed. While Alberta Education provides a development template accompanied by some samples, most student learning guide development is being done by individuals and organizations across the province; e.g., school jurisdictions, specialist councils, post-secondary organizations.

Note: A student learning guide is not a self-contained learning package like those developed by the Learning Technologies Branch (LTB) or Distance Learning Options South (DLOS).

TABLE OF CONTENTS

BACKGROUND INFORMATION	J.3
Components of a Student Learning Guide	J.3
Strategies for Developing Student Learning Guides	J.4
SAMPLE STUDENT LEARNING GUIDE TEMPLATE	J.5
SAMPLE STUDENT LEARNING GUIDES	
FOR1020 Forest Regions of Canada	J.11
(<i>deleted pages</i>).....	J.17–J.22
FOR1090 Forest Ecology 1	J.23

BACKGROUND INFORMATION

A Student Learning Guide (SLG) is a presentation of information and direction that will help students attain the expectations defined in a specified CTS course. It is designed to be used by students under the direction of a teacher. A SLG is not a self-contained learning package such as you might receive from the Alberta Distance Learning Centre (ADLC) or Distance Learning Options South (DLOS).

Each SLG is based on curriculum and assessment standards as defined for a particular CTS course. Curriculum and assessment standards are defined in this document through:

- general and specific outcomes (Sections D, E and F)
- assessment criteria and conditions (Sections D, E and F)
- assessment tools (Section G).

The SLG is written with the student in mind and makes sense to the student in the context of his or her CTS program. SLGs are designed to guide students through courses under the direction of the teacher. They can be used to guide:

- an entire class
- a small groups of students
- individual students.

In some instances, the Student Learning Guide may also be used as teacher lesson plans. When using SLGs as teacher lesson plans, it should be noted that they tend to be:

- learner-centred (versus teacher-directed)
- activity-based (versus lecture-based)
- resource-based (versus textbook-based).

Components of a Student Learning Guide

The student learning guide format, as developed by Alberta Learning, typically has *seven* components as described below.

1. *Why Take This Course?*

This section provides a brief rationale for the work the student will do, and also establishes a context for learning; i.e., in relation to the strand, a life pursuit, a specific industry, etc.

2. *What Do You Need To Know Before You Start?*

In this section, prerequisite knowledge, skills and attitudes considered necessary for success in the course are identified. Prerequisites may include other courses from within the strand or from related CTS strands, as well as generic knowledge and skills; e.g., safety competencies, the ability to measure/write/draw, prior knowledge of basic information relevant to the area of study.

3. *What Will You Know And Be Able To Do When You Finish?*

This information must parallel and reflect the curriculum and assessment standards as defined for the course. You may find it desirable to rewrite these standards in less formal language for student use.

4. *When Should Your Work Be Done?*

This section provides a timeline that will guide the student in planning their work. The timeline will need to reflect your program and be specific to the assignments you give your students. You may wish to include a time management chart, a list of all assignments to be completed, and instructions to the student regarding the use of a daily planner (i.e., agenda book) to organize their work.

5. *How Will Your Mark For This Course Be Determined?*

This section will interpret the assessment criteria and conditions, assessment standards, assessment tools and suggested emphasis as defined for the course within the context of the projects/tasks completed. Accepted grading practices will then be used to determine a percentage grade for the course—a mark not less than 50% for successful completion. (**Note:** A course is “successfully

completed” when the student can demonstrate ALL of the exit-level competencies or GOs defined for the course.)

6. *Which Resources May You Use?*

Resources considered appropriate for completing the course and learning activities are identified in this section of the guide. The resources may be available through the Learning Resources Distributing Centre (LRDC) and/or through other agencies. Some SLGs may reference a single resource, while others may reference a range of resources. Resources may include those identified in the Learning Resource Guide (Section I) as well as other sources of information considered appropriate.

7. *Activities/Worksheets*

This section provides student-centred and activity-based projects and assignments that support the general outcomes. When appropriately aligned with curriculum and assessment standards, successful completion of the projects and assignments will also indicate successful completion of the course.

Strategies for Developing Student Learning Guides

Prior to commencing the development of a student learning guide, teachers are advised to obtain:

- the relevant Guide to Standards and Implementation
- the student learning guide template.

Information communicated to the student in the SLG must parallel and reflect the curriculum and assessment standards as defined for the course. Therefore, critical elements of the Guide to Standards and Implementation that need to be addressed throughout the SLG include:

- general and specific outcomes
- assessment criteria and conditions
- assessment standards
- assessment tools.

Additional ideas and activities will need to be incorporated into the student learning guide. These can be obtained by:

- reflecting on projects and assignments you have used in delivering programs in the past
- identifying human and physical resources available within the school and community
- networking and exchanging ideas (including SLGs) with other teachers
- reviewing the range of resources (e.g., print, media, software) identified in the Learning Resource Guide (Section I) for a particular course/strand.

Copyright law must also be adhered to when preparing a SLG. Further information and guidelines regarding copyright law can be obtained by referring to the:

- *Copyright Act*
- *Copyright* and the *Can Copy Agreement*.

A final task in developing a student learning guide involves validating the level of difficulty/challenge/rigour established, and making adjustments as considered appropriate.

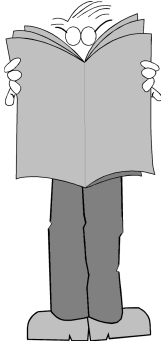
A template for developing student learning guides, also available on the Internet, is provided in this section (see “Student Learning Guide Template,” pages J.5–10). Several sample student learning guides are also provided in this section (see “Sample Student Learning Guides,” starting on page J.11).

CAREER & TECHNOLOGY STUDIES



SAMPLE STUDENT LEARNING GUIDE TEMPLATE

WHY TAKE THIS COURSE?



WHAT DO YOU NEED TO KNOW BEFORE YOU START?



WHAT WILL YOU KNOW AND BE ABLE TO DO WHEN YOU FINISH?

-
-
-
-
-
-
-
-
-

WHEN SHOULD YOUR WORK BE DONE?



HOW WILL YOUR MARK FOR THIS COURSE BE DETERMINED?

	PERCENTAGE
--	------------



WHICH RESOURCES MAY YOU USE?



<ul style="list-style-type: none">•••••••

ACTIVITIES/WORKSHEETS



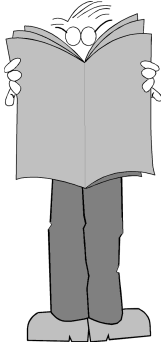
CAREER & TECHNOLOGY STUDIES

FORESTRY

SAMPLE STUDENT LEARNING GUIDE

FOR1020 Forest Regions of Canada

WHY TAKE THIS COURSE?



- A fundamental requirement for anyone working in the forest is to be able to identify the types of vegetation present. This often gives clues as to the location and climate of the area. FOR1020 is an introduction to dendrology, the study of trees. This is a course for students interested in being able to identify local tree species and to explain the reasons for the locations of the forest regions of Canada and Alberta.
- This course should be taken in the late spring or early in the fall to make it much easier to identify trees by their leaves rather than the bare twigs in winter.

WHAT DO YOU NEED TO KNOW BEFORE YOU START?

There are no prerequisites identified for this course.

However, you should be able to:

- locate and describe the geographic regions of Canada
- use and understand maps
- apply the scientific method of inquiry.



WHAT WILL YOU KNOW AND BE ABLE TO DO WHEN YOU FINISH?

Upon completion of this course you will be able to:

- identify factors that determine the type and distribution of forests
- locate and describe the forest regions of Canada
- identify and describe trees that grow in specific regions of Canada and Alberta
- demonstrate basic competencies.

WHEN SHOULD YOUR WORK BE DONE?

Your teacher will give you a timeline for completing tasks and assignments within this course.

You may also wish to use a time-management planning chart to preplan the work that needs to be done in this course. Plan how you will use your class time as well as extra time needed to complete the assignments in this course.



FORESTRY

FOR1020 Forest Regions of Canada

HOW WILL YOUR MARK FOR THIS COURSE BE DETERMINED?

	PERCENTAGE
You must first demonstrate all of the competencies required for this course.	
When you have done this, your percentage mark for the course will be determined as follows:	
<ul style="list-style-type: none">• Moisture Lab	10%
<ul style="list-style-type: none">• Test on Factors	10%
<ul style="list-style-type: none">• Forest Region Maps (Canada) (Alberta)	25%
<ul style="list-style-type: none">• Leaf Collection	15%
	40%



WHICH RESOURCES MAY YOU USE?



- *Trees and Shrubs of Alberta*
- *Native Trees of Canada*
- *Flora of Alberta*
- *Visions*
- *Guide to Common Native Trees and Shrubs of Alberta*

ACTIVITIES/WORKSHEETS

Assignments:

1. Research and prepare a detailed list of factors that act independently and together to determine the type of forest on a given area. These factors should include information on climate, soil, landforms and topography, and the interactions between the three.
2. Using the Scientific Method develop a hypothesis that tests plant growth rates against moisture availability. Write up the experiment, conduct it and interpret the data collected. Remember to practise safe laboratory habits.
3. Forest Regions of Canada
 - on a large sheet of paper (min. 11x17), pencil in the boundaries of this country. Add the provincial boundaries
 - pencil in the forest regions
 - make sure your map is neat and clearly understandable. It must have a key, scale, north arrow and legend
 - on the next page is a sample sheet you can use to fill in information on each forest region
 - repeat the above list for Alberta and its forest regions.
4. Leaf collection
Collect and prepared for formal presentation the leaves (twigs if winter) of five grasses (omit in winter), five local shrubs, willow, aspen, balsam poplar, white birch, jack pine, lodgepole pine, white and black spruce, larch and balsam fir. The species list may be altered by your teacher to fit local conditions.

Note

*Effective September 1999,
pages J.17 to J.22 have been deleted
and not replaced.*

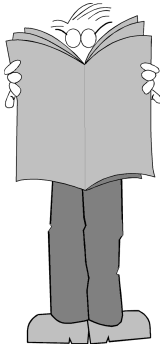
CAREER & TECHNOLOGY STUDIES

FORESTRY

SAMPLE STUDENT LEARNING GUIDE

FOR1090 Forest Ecology 1 (Ecosystem Dynamics)

WHY TAKE THIS COURSE?



- Being able to work with living things means you have to understand how things work. The easiest way is to look at the component parts of a system. Therefore, in this course you will look at several parts of the forest. These include tree structure, biotic and abiotic factors of the forest ecosystem, and the role of the tree in the forest.
- Remember you must practise safe work habits in anything you do, especially lab or outdoor activities. If you are not sure how to do something, ask someone having knowledge for instructions first.

WHAT DO YOU NEED TO KNOW BEFORE YOU START?

There are no prerequisites identified for this course.

However, you should understand and be able to apply the scientific method of inquiry.



WHAT

**WILL YOU KNOW AND
BE ABLE TO DO
WHEN YOU FINISH?**

Upon completion of this course you will be able to:

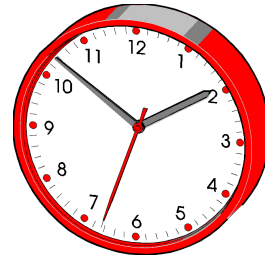
- describe interrelationships among elements in the forest ecosystem
- describe structural units of the tree and their function in performing life processes
- demonstrate basic competencies.

WHEN

SHOULD YOUR WORK BE DONE?

Your teacher will give you a timeline for completing tasks and assignments within this course.

You may also wish to use a time-management planning chart to preplan the work that needs to be done in this course. Plan how you will use your class time as well as extra time needed to complete the assignments in this course.



FORESTRY

FOR1090 Forest Ecology 1 (Ecosystems Dynamics)

HOW WILL YOUR MARK FOR THIS COURSE BE DETERMINED?

	PERCENTAGE
<p>You must first demonstrate all of the competencies required for this course.</p> <p>When you have done this, your percentage mark for the course will be determined as follows:</p>	
<ul style="list-style-type: none">• Tree Biology:<ul style="list-style-type: none">Activity 1.6Activity 3.2Tree DrawingTest• Forest Ecosystems<ul style="list-style-type: none">Activity 2.8Food WebTest	<p>10%</p> <p>10%</p> <p>10%</p> <p>20%</p> <p>10%</p> <p>20%</p> <p>20%</p>



WHICH RESOURCES MAY YOU USE?



- *Alberta Parks and Recreation: Learning Resources Manual* (Alberta government)
- *Investigating Terrestrial Ecosystems*
- *Field and Laboratory Methods for General Ecology*
- *Managing Your Wood Lot* (Canadian Forest Service)
- *Seeing the Forest Among the Trees*
- *Ecology*
- *Biology*

ACTIVITIES/WORKSHEETS

Section 1: Tree Biology

- Activity 1.6 on page 11 in *Investigating Terrestrial Ecosystems*.
- Activity 3.7 on page 47 in *Investigating Terrestrial Ecosystems*.
- On a large sheet of paper, draw a cross-section of a tree (top to bottom) that shows all components. Label each component. Then, on a separate sheet of paper explain the importance of each structure as well as the processes it carries out. List the percentage by weight and volume that each structure makes up of the tree total; e.g., the leaves make up 1% of the tree's weight and 1.7% of its volume. As well, explain what would happen to the tree if the specific structure had its function impaired or destroyed.
- Completed a written test that will examine you on the structural components of trees, and the function of these components.

Section 2: Forest Ecosystems

- Read chapters 1, 2 and 3 in *Investigating Terrestrial Ecosystems*.
- Activity 2.8 on page 33 of *Investigating Terrestrial Ecosystems*.
- Visit a forested area and prepare a comprehensive food web of the area. Plan this trip with your teacher. Make sure you address all aspects of safety. Plan two trip dates so that if the weather is bad on the first you can go on the second. Once at the area collect data on:
 - types of animals present. Determine numbers and area in which animals are found.
Look for: scat
tracks
bones
actual sightings
 - types of grass/shrubs/fungi and mosses present.
Determine numbers and area in which species are found.
 - types and numbers of trees present and area in which trees are found.
 - types and numbers of insects present.
 - soil quality (use a soil test kit).

Return to classroom with the data. On a large sheet of paper draw a food web using the data you collected. Explain the interrelationships that your food web shows. Prepare it for presentation (make it look good) and hand it in with your field notes.

- Write a test on the material presented in the three chapters and your observations on the field trip.

