Date: February 21, 2013  
Course Number: FTC 204  
Course Title: Introduction to Natural Resources Measurements

☐ New Course  OR  ☑ Changes in existing course (check all that apply):

☐ Prefix  ☐ Description  ☐ Shared Resources
☐ Number  ☐ Pre-requisite(s)  ☐ Course Format
☒ Credits  ☒ Co-requisite(s)  ☐ Content
☐ Title  ☐ Semester Offered

This course meets the General Education standards in the following knowledge and skills area (check all that apply):

☐ American History  ☐ Humanities  ☐ Other World Civilizations
☐ The Arts  ☐ Mathematics  ☐ Social Sciences
☐ Basic Communication  ☐ Natural Sciences  ☐ Western Civilization

If changing an existing course, describe the change(s):

We are adding some water measurement lectures and a lab to this course. This is information previously covered in the ecology and/or Water Measurements courses. To make way for the new material, slightly less emphasis will be put on log scaling.

Prerequisites or co-requisite requirements:

☐ Prerequisites:  ☒ Co-requisites: FTC 200 Dendrology, FTC 202 Introduction to Surveying, FTC 208 Remote Sensing and GIS

Institutional Impact:

Anticipated Enrollment:

Technology and Classroom Resource Demands:

Computing Resources:

Library Resources:

Transportation Requirements:

Forest Properties or Field Practicum Facilities Required:
Health and Safety Considerations:

Conditions or situations present in association with the course?  

1. Will substances with any of the following properties be used during instruction: flammability, toxicity, corrosivity, reactivity, registered pesticide, legally controlled, or other characteristics with the potential to cause harm or injury?  

   Yes / No  

   No

2. Will any physical hazards be present during instruction? (e.g., machines that need safety guards; razor blades or syringes; compressed gases, etc.).  

   Yes / No  

   No

3. Will any biological hazards be present during instruction? (e.g., handling animals (rabies or hantavirus); cultures or stocks of infectious agents (fungal spores, viruses, bacteria, etc.).  

   Yes / No  

   No

4. Will any radiation hazards be present during instruction? (e.g., radioisotopes, X-rays, ultraviolet rays, lasers, etc.).  

   Yes / No  

   No

5. Will any electrical equipment that, due to its design, location, or method of use, pose any threat to safety during instruction? (Give considerable thought to electrical use outdoors, or any potentially wet location.).  

   Yes / No  

   No

6. Will there be any personal safety issues related to the class? (e.g., due to time of day or location, at the end of any organized class exercise, will students be in danger of physical assault, etc.).  

   Yes / No  

   Yes

7. Will any students be driving official state or research sponsored land or water vehicles during any class or instructional exercise?  

   Yes / No  

   No

8. Will any type of personal protective equipment be necessary during class exercises? (e.g., hard-hats, eye/face protection, hearing protection, hand/foot protection, lab coat, visibility clothing, etc.)  

   Yes / No  

   Yes

If the answer was “Yes” to any of the HEALTH AND SAFETY questions, please explain:  

8.

CATALOG DESCRIPTION

Co-requisites:
DETAILED COURSE DESCRIPTION

COURSE: FTC 204 – Introduction to Natural Resources Measurements
5 Credit Hours – Fall Semester
60 hours lecture
45 hours laboratory
Prerequisite(s): none

SCOPE:

1. Level of Instruction:
   a. FTC 204 is an introductory course intended for students seeking an A.A.S. degree at the Ranger School (Wanakaen Campus),

2. Relation to curriculum or to other ESF or Syracuse University courses:
   a. FTC 204 is required of all students enrolled in all Ranger School academic programs.
   b. It serves as a pre-requisite for FTC 213 Forest Inventory Practicum, FTC 211 Silviculture, and FTC 221 Natural Resources Management.
   c. Shared resource requirements: none, a graduate offering is not planned.

STUDENT LEARNING OUTCOMES:

After completing this course the student should be able to:

1. Measure tree diameters and heights accurately.
2. Estimate the volume of wood contained in individual trees, logs, and pieces of lumber.
3. Demonstrate an understanding of the basic elements and methods of tree, log and lumber grading.
4. Estimate the amount of biomass and/or carbon stocks on specific forest areas.
5. Estimate the abundance and/or quality of certain wildlife habitat features.
6. Describe common measures of recreation use and impact.
7. Measure water quality using standard tools and procedures.
8. Establish and measure fixed-area and variable-radius forest inventory plots.
9. Summarize forest inventory data to the plot, stand, and forest level.
10. Conduct an elementary statistical analysis of forest inventory data.
11. Professionally present the results of a forest inventory in a written technical report.

MAJOR CONCEPTS OR METHODOLOGIES:

This course covers basic measurement techniques and sampling systems commonly used to estimate and/or measure wildlife habitat, recreation resources, water resources, native and invasive plants, timber, biomass and primary wood products. Students are introduced to the concepts, methods, and instruments used to estimate standing-tree and log volume; to measure and grade standing trees, logs, bolts, stacked pulpwood and firewood, and lumber; and to conduct natural resource inventories for timber, biomass, carbon stocks, plant diversity and/or wildlife habitat. Students learn to summarize, analyze, and present forest resources inventory data for multiple purposes. Concepts and skills are reinforced through several field-oriented, hands-on exercises.

CATALOG DESCRIPTION

FTC 204. Introduction to Natural Resources Measurements (5)

Sixty hours of lecture and forty five hours of field/laboratory. A study of the tools and techniques used to measure primary forest products and inventory and/or measure natural resources, such as timber, water, biomass, carbon stocks, wildlife habitat, recreation use and impact, and plant diversity. Professional presentation of forest inventory data in the form of technical reports. Basic
forest sampling methods are used and compared, and associated statistical methods are learned and applied. Fall.

Prerequisite(s): none

COURSE HISTORY:

On 1/26/72 a new two-year curriculum in Forest Technology was approved by the College of Forestry Faculty. F. Tech. 204 was approved at that time as part of the package and taught at the Wanakena Campus starting in Fall 1973. The F. Tech. abbreviation was re-designated FTC in August 1973, as part of the computerization of the college records. A revised description of FTC 204 was approved on 3/23/78. Minor changes to the catalog description were approved in March 1989. The course description was reviewed by the instructor in October 1989. The course was renamed and revised, and credit hours increased to 4 as part of a new, 48-credit hour Forest Technology curriculum in 2000. The course is reviewed, renamed, and revised as part of new 45-credit hour Forest Technology and Land Surveying curricula in 2010.

The content and description of this course were slightly modified in December 2012 to reflect the addition of some water measurement lectures and labs. This, in turn, resulted from some other curriculum changes being proposed/implemented at the time.


Revised Draft: December 7, 2009 (form in protected format: 2/21/13)