

# COURSE SYLLABUS

<b>Course Title:</b>	General Botany	<b>Date submitted:</b>	November 2017 (AAC:17-61)	
<b>Department:</b>	Mathematics and Science			
<b>Curriculum:</b>	Biology			
<b>Course Descriptors:</b> Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.	<b>Course Code:</b> (eg. ACC 101) <table border="1"><tr><td>BIO*155</td></tr></table>	BIO*155	<b>Prerequisites:</b> C- or better in Integrated Reading and Writing II (ENG*075) OR Introduction to College Reading & Writing (ENG*093) OR Introduction to College English (ENG*096) OR Reading & Writing VI (ESL*162), or placement into Composition (ENG*101) [including embedded ENG*101]	
	BIO*155			
	<b>Course Type:</b> <table border="1"><tr><td>X</td></tr></table>	X		
	X			
	A: Clinical B: Lab D: Distance Learning I: Individual/Independent L: Lecture N: M: Seminar Internship P: Practicum U: Studio X: Combined Lecture/Lab Y: Combined Lecture/Clinical/Lab Z: Combined Lecture/Studio			
	<b>Elective Type:</b> <table border="1"><tr><td>G/LAS/S</td></tr></table>	G/LAS/S		
	G/LAS/S			
	E: English FA: Fine Arts FL: Foreign Language G: General HI: History HU: Humanities LAS: Liberal Arts & Sciences M: Math S: Science SS: Social Science			
	<b>Credit Hours:</b> <table border="1"><tr><td>4</td></tr></table>	4		
	4			
<b>Developmental:</b> (yes/no) <table border="1"><tr><td>NO</td></tr></table>	NO			
NO				
<b>Contact Hours:</b>	Lecture:	<table border="1"><tr><td>3</td></tr></table>	3	<b>Corequisites:</b>  None
	3			
	Clinical:	<table border="1"><tr><td>0</td></tr></table>	0	
	0			
	Lab:	<table border="1"><tr><td>3</td></tr></table>	3	
3				
Studio:	<table border="1"><tr><td>0</td></tr></table>	0		
0				
Other:	<table border="1"><tr><td>0</td></tr></table>	0		
0				
	TOTAL:	<table border="1"><tr><td>6</td></tr></table>	6	
6				
	<b>Class Maximum:</b> <table border="1"><tr><td>18</td></tr></table>	18	<b>Other Requirements:</b>  Laboratory Coat	
18				
	<b>Semesters Offered:</b> <table border="1"><tr><td>F/Sp</td></tr></table>	F/Sp		
F/Sp				
<b>Ability-Based Education (ABE) Statement:</b>	At Tunxis Community College students are assessed on the knowledge and skills they have learned. The faculty identified the General Education Abilities critical to students' success in their professional and personal lives. In every class, students are assessed on course abilities, sometimes program abilities, and, in most classes, at least one General Education Ability. Students will receive an evaluation of the degree to which they have demonstrated or not demonstrated that General Education Ability.			
<b>Catalog Course Description:</b>	Introduces basic principles of plant structure, function and reproduction including the diversity of plants and environmental influences on plant growth and survival. Applied topics include human uses of plants in agriculture, commerce, medicine and ecology. Lecture and laboratory.			
<b>Topical Outline:</b> List course content in outline format.	<b>Lecture:</b> 1. The Scientific Method: Both the principles of biology and the scientific method are introduced using plants as illustration. 2. The Plant Cell a. Chemical Composition b. Cell Structures			

- c. Metabolism in Cells, including Photosynthesis
- 3. Plant Structure and Life Processes
  - a. Plant Tissues
  - b. Plant Organs: Roots, Stems and Leaves
  - c. Flowers, Fruits and Seeds
  - d. Mineral, Nutrient and Water Transport in Plants
  - e. Growth Responses and Regulation of Growth
- 4. The Continuity of Plant Life
  - a. The Molecular Basis of Inheritance
  - b. Evolution of Populations and Species
- 5. Diversity of Plants
  - a. The Classification of Plants
  - b. Human Uses of Plants in Agriculture, Commerce, Medicine and Ecology
- 6. Plant Ecology
  - a. Ecosystems
  - b. Biomes of the World

**Laboratory**

Laboratory investigations may vary depending on the seasonal availability of plant specimens. Field study or field trips may be required.

- 1. The Scientific Method: Both the principles of biology and the scientific method are introduced using plants as illustration.
- 2. The Microscope
- 3. The Cell and Mitosis
- 4. Roots, Stems, Leaves
- 5. Cell Components and Products
- 6. Photosynthesis
- 7. Water in Plants; Respiration; Digestion
- 8. Diffusion, Growth, and Hormones
- 9. Genetics
- 10. Kingdom Plantae: Angiosperms (Flowering Plants)
- 11. Kingdom Plantae: Gymnosperms
- 12. Kingdom Fungi (Mycota)
- 13. Fruits, Spices, Survival Plants, and Poisonous Plants
- 14. Plant Propagation

**Upon successful completion of this course, the student will be able to do the following:**

**COURSE:**

- 1. list the main steps of the scientific method and explain how science differs from other human endeavors
- 2. describe the functions of a plant cell and its organelles, and summarize the differences between plant and animal cells
- 3. identify and illustrate plant structure, growth and reproduction
- 4. summarize some of the evidence for evolution from fossils and living species, and give several examples of how plant structure relates to its function
- 5. outline the general principles of plant taxonomy and the Linnaean binomial system of nomenclature
- 6. explain the ecological and economic significance of wood, flowering plants, gymnosperms, ferns and mosses
- 7. describe the major terrestrial biomes of the world, including the climate, soil and characteristic plants and animals of each

**Outcomes:**

Describe measurable skills or knowledge that students should be able to demonstrate as evidence that they have mastered the course content.

	<p><b>PROGRAM:</b> <i>(Numbering reflects Program Outcomes as they appear in the college catalog)</i> N/A</p> <p><b>COMPETENCY FULFILLED:</b> Scientific Knowledge &amp; Understanding (SCKX) OR Scientific Reasoning (SCRX)</p>
<p><b>Evaluation:</b> List how the above outcomes will be assessed.</p>	<p><b>Assessment will be based on the following criteria:</b> examinations quizzes assignments during class and lab</p>
<p><b>Instructional Resources:</b> List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.</p>	<p><b>Required:</b> Plant specimens, histology slides and models <b>Desired:</b> None</p>
<p><b>Textbook(s)</b></p>	<p>Textbook: Introductory Botany: Plants, People and the Environment, by Linda R. Berg, PhD; latest edition (Laboratory) Introductory Plant Biology, latest edition; Kingsley R. Stern .</p>