

9/13/2022 DATE

 REQUIRED COURSE  
 ELECTIVE COURSE

 MSD \_\_\_\_\_ DIVISION \_\_\_\_\_  
 NEW COURSE  
 REVISION

## Lake Land College

### Course Information Form

<b>COURSE NUMBER:</b>		BIO-111		<b>TITLE:</b> (30 Characters Max)		General Botany					
<b>SEM CR HRS:</b>	4	<b>Lecture:</b>		3	<b>Lab:</b>	2			<b>ECH:</b>	5	
<b>Course Level:</b>	<input type="checkbox"/> Gen Ed / IAI <input checked="" type="checkbox"/> Baccalaureate /Non-IAI		<input type="checkbox"/> Career/Technical <input type="checkbox"/> Dev Ed/ Not in Degree Audit		<b>Clinical Practicum:</b>	0	<b>SOE/ Internship:</b>	0	<b>SOE ECH:</b>	0	
<b>COURSE PCS #</b>	11 - 26.0301		<b>IAI Code</b>				<b>Contact Hours (Minutes Per Week)</b>				
<b>Repeatable (Y/N):</b>	N	<b>Pass/Fail (Y/N):</b>	N	<b>Variable Credit (Y/N):</b>	N	<b>Min:</b>	<b>Max:</b>	<b>16 Wks</b>	250	<b>8 wks</b>	500
<b>Prerequisites:</b>	BIO-100										
<b>Catalog Description: (40 Word Limit)</b>	A survey of the plant kingdom with emphasis on evolutionary advancements and the structure and function of plants and their ecological and human relevance. An introduction to bacteria, viruses, protists and fungi is included in this course.										

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Non-Clinical Internship/ SOE
Overview, Classification, Characteristics of Life, Cell Review, Bacteria & Viruses	7	4		
Kingdom Protista & Kingdom Fungi	6	6		
Plant Tissues, Roots & Stems	7	4		
Leaves, Water in Plants, Photosynthesis, Growth & Development of Plants	9	4		
Survey of Kingdom Plantae	16	12		
<b>TOTAL</b>	<b>45</b>	<b>30</b>	<b>0</b>	<b>0</b>

### EVALUATION

<b>QUIZZES</b>	<input checked="" type="checkbox"/>	<b>EXAMS</b>	<input checked="" type="checkbox"/>	<b>ORAL PRES</b>	<input type="checkbox"/>	<b>PAPERS</b>	<input checked="" type="checkbox"/>
<b>LAB WORK</b>	<input checked="" type="checkbox"/>	<b>PROJECTS</b>	<input type="checkbox"/>	<b>COMP FINAL</b>	<input checked="" type="checkbox"/>	<b>OTHER</b>	<input type="checkbox"/>

### COURSE MATERIALS

<b>TITLE:</b>	Stern's Introductory Plant Biology
<b>AUTHOR:</b>	J. Bidlack & S. Jansky
<b>PUBLISHER:</b>	McGraw-Hill
<b>VOLUME/EDITION/URL:</b>	15th
<b>COPYRIGHT DATE:</b>	2021

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		<i>The student will be able to:</i>
<b>Overview, Classification, Characteristics of Life, Cell Review, Bacteria &amp; Viruses</b>		
Introduction, Diversification of Plant Study	1	Recognize the importance and diversity of plant sciences.
Classification, Taxonomy, Systematics	3.5	Explain and utilize the binomial system of nomenclature, classification and taxonomy. Utilize a dichotomous key to identify plants. Develop a dichotomous key to classify a number of plant species.
Characteristics of Life Review	0.5	Identify characteristics shared by all living organisms.
Cell study history, cell structures	3.75	Describe the contributions of various scientists to the study of cells. Demonstrate proper use of compound light and dissecting microscopes. Identify plant cell structures and explain their function.

Domain Bacteria, Domain Archaea Viruses	2.25	Explain the various forms, locomotion, distribution, nutrition and reproduction of members of the domain Bacteria and domain Archaea. Recognize the ecological and human relevance of bacteria. Describe the structure of viruses and their modes of replication. Recognize the ecological and human relevance of viruses.
<b>Kingdom Protista &amp; Kingdom Fungi</b>		
Kingdom Protista: Plant-like Protists & Fungus-like Protists	7.25	Explain the characteristics of kingdom Protista. Evaluate effectiveness of using these criteria for classifying organisms. Describe characteristics and life cycles of the phyla of kingdom Protista. Identify representative organisms. Summarize the ecological and human relevance of protists.
Kingdom Fungi & Lichens	4.75	Explain the characteristics of kingdom Fungi & lichens. Describe characteristics and life cycles of the divisions (phyla) of kingdom Fungi. Identify representative organisms. Summarize the ecological and human relevance of Fungi and lichens.
<b>Plant Tissues, Roots &amp; Stems</b>		
Plant Tissues	3.75	Describe the various meristems and the tissues they produce.
Roots	1.75	Explain the functions, development, growth and types of root systems. Summarize the human relevance of plant roots.
Stems	5.5	Explain the origin, development, growth and form of plant stems. Summarize the human relevance of plant stems.
<b>Leaves, Water in Plants, Photosynthesis, Growth &amp; Development of Plants</b>		
Leaves	3.75	Describe the various meristems and the tissues they produce.
Water in Plants	1	Describe the importance of water in plants. Summarize the path water takes through the plant.
Photosynthesis	4	Discuss the importance of light to phototrophic autotrophs and ecosystems. Summarize the light-dependent and the light-independent reactions of photosynthesis.
Growth & Development	4.25	Recognize the importance of plant hormones on plant development and growth. Demonstrate the effects of plant hormones on greenhouse plants. Describe types of plant movements and the role of phytochrome in flowering.
<b>Unit V – Survey of Kingdom Plantae</b>		

The Bryophytes	5.5	Describe the characteristics and methods of reproduction of liverworts, hornworts and mosses. Summarize the ecological and human relevance of the bryophytes.
Seedless Vascular Plants: Ferns & Allies	7.5	Explain the characteristics and methods of reproduction of ferns and their allies. Summarize the ecological and human relevance of ferns and their allies. Interpret plant keys and field guides to identify plants from Illinois ecosystems and describe the adaptations that allow them to survive and thrive in their ecosystems.
Gymnosperms & the Evolution of Seeds	5.5	Recognize the evolutionary advantages of seed production. Describe the characteristics and methods of reproduction of the gymnosperm divisions. Summarize the ecological and human relevance of gymnosperms.
Angiosperms	9.5	Describe the classes of the division Magnoliophyta (Anthophyta) and their methods of reproduction. Recognize the importance of pollinators in plant reproduction. Identify flower structures and distinguish among the various fruit types. Summarize the ecological and human relevance of flowers, fruits and seeds.
	75	

COURSE OUTCOMES*	At the successful completion of this course, students will be able to:
	<ul style="list-style-type: none"> <li>Recognize the importance of plants and the study of plants.</li> </ul>
	<ul style="list-style-type: none"> <li>Utilize the system of binomial nomenclature, classification, and taxonomy of the bacteria, protists, fungi and plants.</li> </ul>
	<ul style="list-style-type: none"> <li>Describe the characteristics of bacteria, protists and fungi and recognize their ecological and economic importance.</li> </ul>
	<ul style="list-style-type: none"> <li>Explain the characteristics of the kingdom Plantae and its major divisions (phyla). Identify examples of each division and recognize their ecological and economic importance.</li> </ul>
	<ul style="list-style-type: none"> <li>Describe methods of reproduction and the various reproductive structures of the members of kingdom Plantae.</li> </ul>
	<ul style="list-style-type: none"> <li>Recognize external and internal morphology of roots, stems and leaves. Identify ecological and economic importance these structures.</li> </ul>
	<ul style="list-style-type: none"> <li>Describe basic plant physiology, including photosynthesis, hormones, growth, dormancy and tropisms</li> </ul>

\* Course Outcomes will be used in the Assessment Software for Outcomes Assessment. Limit to 3 - 5.