

CATALOG INFORMATION

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Dept & Nbr: BIO 255                      Title: BOTANY  
Full Title: Botany

Units	Course Hours	Per Week	Nbr of Weeks	Course Hours	Total
Max: 5.0	Lecture	4.0	17	Lecture	68.0
Min: 5.0	Lab	3.0		Lab	51.0
	Contact DHR	0.0		Contact DHR	0.0
	Contact Total	7.0		Contact Total	119.0
	Non-contact DHR	0.0		Non-contact DHR	0.0

Title 5 Category: 01 AA Degree Applic  
Grading: GC Credit course for grade or CR/NC  
Repeatability: 00 No repeatability allowed or defined  
Also listed as:

CATALOG DESCRIPTION:

A survey of the fundamentals of plant morphology, physiology, taxonomy, and ecology as they relate to algae, fungi, mosses, gymnosperms, and angiosperms.

PREREQUISITES:

Completion of MTH 56 (or MTH 120).

RECOMMENDED PREPARATION:

Completion of BIO 250.

LIMITS ON ENROLLMENT:

SCHEDULE OF CLASSES INFORMATION:

Prerequisites: Completion of MTH 56 (or MTH 120).  
Recommended: Completion of BIO 250.  
Biology majors will learn about the structure and function of plants and study factors which influence their worldwide distribution. (Grade or CR/NC)  
Transfer Credit: CSU; UC. (CAN BIOL 6)

ARTICULATION and CERTIFICATE INFORMATION

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ASSOCIATE DEGREE:		Effective: FALL	1981	Inactive:
Area:	A	NATURAL SCIENCES		
CSU GE:		Effective: FALL	1981	Inactive:
Transfer area:	B2	LIFE SCIENCE		
	B3	LAB ACTIVITY		
IGETC:		Effective: FALL	1981	Inactive:
Transfer area:	5B	BIOLOGICAL SCIENCES		

CSU TRANSFER: TRANSFERABLE Effective: FALL 1981 Inactive:

UC TRANSFER: TRANSFERABLE Effective: FALL 1981 Inactive:

CAN:

BIOL 6 Grp Nbr: 01 Effective: SPRING 1989 Inactive:

CERTIFICATE APPLICABLE: N NOT CERTIFICATE/MAJOR APPLICABLE

#### APPROVAL AND DATES

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Version 02 Submitted by: ALAN WEST Date: 04/27/2005  
 Department approved: Date:  
 Curriculum approved: 06/01/1981 Version approved: 04/22/2005  
 Prerequisites approved: 10/02/2000 Last reviewed: 04/22/2005  
 Term effective: SPRING 2006 Last taught: SPRING 2008 Inactive:

#### COURSE CONTENT

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##### OUTCOME AND OBJECTIVES:

1. Identify autotrophs of importance that are studied in laboratory and field situations.
2. Develop an understanding of the anatomy and physiology of selected organisms and the consequential effect of various environmental factors upon them.
3. Know the major groups of autotrophs and their functions.
4. Develop the fundamental laboratory skills that are essential to further study.

##### TOPICS AND SCOPE:

###### Lecture

1. Botanical History
2. Microscopy
3. Cells and Tissues
4. Stems
5. Leaves
6. Roots
7. Flowers
8. Fruits and Seeds
9. Photosynthesis
10. Respiration
11. Water Relations
12. Growth and Development
13. Meiosis/Alt. Gen.
14. Genetics/Evolution
15. Taxonomy
16. Prokaryotes
17. Algae
18. Fungi
19. Bryophytes
20. Ferns and Fern Allies
21. Gymnosperms

22. Flowering Plants
23. Plants and Humans
24. Plant Ecology

## Laboratory

1. Microscopy
2. Cytology
3. Stems
4. Leaves
5. Roots
6. Flowers
7. Fruits and Seeds
8. Seed Germination
9. Photosynthesis
10. Respiration
11. Transpiration
12. Chromosome Counting
13. Genetics
14. Prokaryotes
15. Algae
16. Fungi
17. Bryophytes
18. Fern Allies
19. Ferns
20. Gymnosperms
21. Angiosperms
22. Pollination

## ASSIGNMENTS:

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## READING ASSIGNMENTS:

Students will be required to read and study assigned chapters in the textbook as well as assignments from the laboratory manual prior to laboratory experiments. Supplemental reading from selected journal articles and handouts will be assigned. Examples of appropriate recommended reading are: Scientific American; Science; and biological Bulletin.

## WRITING ASSIGNMENTS:

Students are required to investigate and complete selected laboratory reports which are submitted to the instructor at the end of each week. In addition, students are required to successfully complete lecture essay exams.

## OUTSIDE ASSIGNMENTS:

Eight hours of independent work must be completed outside of class each week. This work includes studying lecture discussions, reviewing and writing laboratory reports, answering questions presented in the textbook, preparing for upcoming laboratories, and preparing for exams

## ASSIGNMENTS THAT DEMONSTRATE CRITICAL THINKING:

The experimental laboratory by its very nature requires critical thinking on the part of the student. Students must analyze laboratory results and demonstrate their understanding by interpreting the results in well-written laboratory reports.

## METHOD OF INSTRUCTION:

Lecture, laboratory assignments, field trips, slide presentations, handouts, reading assignments, laboratory skill demonstrations and class discussion.

## METHODS OF EVALUATION:

1. The total grade for the semester will be comprised of 3/5 for lecture and 2/5 for laboratory. 2. The lecture grade will be based on at least four exams with the total score being the cumulative total of each exam. Each exam will have equal weighting. 3. The laboratory grade will be based on at least two laboratory practical exams and the evaluation of at least ten laboratory reports.

## BASIS FOR GRADING:

The assignment of a grade is based on the level of achievement of the outcomes and objectives of the course outline and is reflected in quantifiable terms in the course syllabus.

## REPRESENTATIVE TEXTBOOKS:

Biology of Plants, Raven et.al., 6th edition/hardbound, Worth Publishing  
 Laboratory Topics in Botany, Evert & Eichhern, 6th edition/paperback, Worth Publishing  
 The Visual Dictionary of Plants, 1st American Edition, 1992, Dorling Kindersley Inc.  
 An Atlas of Plant Structure, Bracegirdle, Brian and Patricia Miles, 1st edition, 1971, Heinemann Educational Books, Ltd.

## REASON FOR REVISION

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## RESOURCES REQUIRED

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## MISCELLANEOUS

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Advisory generate desc:	Y	YES
Area department:	BIO	BIOLOGICAL SCIENCES
Audit flag:	N	NOT AUDITABLE
Basic skills:	X	NOT BASIC SKILLS
Classification:	A	Liberal Arts and Sciences
Cost level:	01	
Disciplines:		BIOLOGICAL SCIENCES
Division:	02	MERIDITH RANDALL
Faculty service areas:		BIOLOGY
Fee:	\$0.00	
In-service:	X	NOT IN-SERVICE
Level below transfer:	X	NOT APPLICABLE
Matric-requiring:	X	Exempt from assessment
Maximum class size:	0	
Maximum wait list:	0	

Method of instruction: 03 LECTURE/LABORATORY  
Non-credit category: X NOT APPLICABLE, CREDIT COURSE  
Open entry/exit: N Not open entry/exit  
Pacs activity: 0401 BIOLOGY GENERAL  
Pacs program project: 0000  
Preq/coreq generate desc: Y YES  
Preq/coreq provisional: N NO  
Preq/coreq reg check: Y PREREQUISITE RULES EXIST  
Repeat group id:  
Requires instructor sig: N INSTRUCTOR'S SIGNATURE NOT REQUIRED  
SAM classification: E Non-occupational  
Selected/special topic: N NOT A SELECTED TOPIC COURSE  
Special class: X NOT A SPECIAL COURSE  
TOP code: 0402.00 BOTANY, GENERAL  
Workload: 0.0000