

COURSE APPROVAL/CHANGE DOCUMENT

(See back of form for instructions)

Submit

1. ADDITION REVISION TERMINATION

2. IF REVISION: denote changes (i.e. Title only; Title, CIP and Description, etc.):

3. COURSE NUMBER **BO** 565 4. COURSE TITLE Plant Diversity Collections

5. IF REVISION: Previous Course No. _____ Previous Title _____

6. FOR ADDITIONS AND REVISIONS -
FIRST TERM/YEAR TO BE OFFERED:

Fall Spring Summer Term 2020

7. FOR TERMINATIONS ONLY -
LAST TERM/YEAR TO BE OFFERED:

Fall Spring Summer Term _____

8. COLLEGE: **Coll of Sci, Tech, Engr & Math**

9. DEPARTMENT NAME: **Biology**

10. CIP CODE (Classification of Instructional Program / US Bureau of Labor Statistics): 26.03

11. FIXED CREDIT HOURS: YES NO

3 Total Credit Hours

1 Lec Contact Hours

4 Lab Contact Hours

____ Other Contact Hours

12. VARIABLE CREDIT HOURS: YES NO

____ Min Total Credit Hours ____ Max Total Credit Hours

____ Min Lec Contact Hours ____ Max Lec Contact Hours

____ Min Lab Contact Hours ____ Max Lab Contact Hours

____ Min Other Contact Hours ____ Max Other Contact Hours

13. CAN THIS COURSE BE TAKEN FOR ADDITIONAL CREDIT: YES NO If YES, total number of times course can be taken _____

14. MAXIMUM ENROLLMENT ALLOWED FOR COURSE: 15 Justification of maximum enrollment:

This is the maximum number of students that can be equipped with tools and have logistical space to work in the confines of the biology greenhouses.

15. CLASS SCHEDULE TYPE/ FACULTY WORKLOAD: Choose appropriate schedule type: **LB - Lecture/Lab**

Faculty Workload: 4 Class schedule type justification:

This is a skills building course that focuses on problem solving, as well as practical experience in plant care in a diversity greenhouse. A large proportion of the time is spent in small groups or working one on one with the professor.

16. COURSE LEVEL: **Mixed Undergrad/Graduate**

17. GRADE TYPE: **Standard Grade**

18. DEVELOPMENTAL COURSE: YES NO

19. CROSS-LISTED COURSE:

YES WITH _____ NO

20. SPECIAL COURSE FEE? (Must be Board approved)

YES Amount \$ _____ NO

21. Required faculty qualifications to teach this course:

Terminal degree in biology (PhD). Knowledge of greenhouse practices. Expert with plant diversity.

22. UNIVERSITY STUDIES COURSE: YES NO

If yes, please select one general education category:

If yes, please select up to three general education learning goals that reflect the priorities for student learning in the course. Please rank these in priority order, i.e. 1,2,3 by inserting the numbers/rankings into the boxes:

- ___ General Education Learning Goal 1: Ethical Reasoning
- ___ General Education Learning Goal 2: Global Learning
- ___ General Education Learning Goal 3: Information Literacy
- ___ General Education Learning Goal 4: Written Communication
- ___ General Education Learning Goal 5: Oral Communication
- ___ General Education Learning Goal 6: Critical Thinking
- ___ General Education Learning Goal 7: Quantitative Literacy

If the proposed new or revised course is a General Education/University Studies course, please provide a short rationale why this course should be considered as a general education course.

Attach the following:

- a) If applicable, memos from Department Chair(s) in affected department(s) stating support or that issues/conflicts are resolved.
- b) Memo from Library Dean assessing available and needed library resources and services.
- c) Class syllabus using the syllabus template. [Syllabus Template Link](#)

COURSE APPROVAL SIGNATURES

Department Chairperson

James E.
Champine

Digitally signed by James E.
Champine
Date: 2019.10.14 15:38:10 -05'00'

Educator Preparation Committee

Dean of Kent Library

Barbara C.
Glackin

Digitally signed by Barbara C.
Glackin
Date: 2019.04.12 10:02:47 -05'00'

University Studies Council

College Council

Tamela D.
Randolph, PhD

Digitally signed by Tamela D. Randolph, PhD
DN: cn=Tamela D. Randolph, PhD, o=Southeast
Missouri State University, ou=College of Science,
Technology, Engineering, and Mathematics,
email=randolph@semo.edu, c=US
Date: 2019.10.22 14:06:01 -05'00'

Graduate Council

Doy Ke 11/25/19

To obtain the next signature, save the pdf to your desktop and then email the form as an attachment to the next individual for signing. When submitting the form, the **email must come from your Southeast email account.**

Registrar's Office Use Only

SCACRSE _____ Bulletin _____ Degree Audit _____ SHATATR _____



Southeast
Missouri State University

ONE UNIVERSITY PLAZA • CAPE GIRARDEAU, MISSOURI 63701-4799 • (573) 651-2000 • www.semo.edu

April 5, 2019

Plant Diversity Collections (BO565) is a new three credit hour course that has one hour of lecture and a total of four hours of lab (in the form of hands on experience in the biology greenhouse) per week. This is a new course that focuses on building skills specific to a diversity greenhouse facility used for teaching and research in a biology department. As well, students learn a variety of ways to display and curate information for use in courses in evolution, ecology, conservation, and natural history.

There is no lab fee or course textbook associated with BO565.

Please reach out if you have any additional questions.

Sincerely,

Jennifer J Weber
Assistant Professor
Dept. of Biology
Southeast Missouri State U.
jjweber@semo.edu
www.jenniferjuneweber.org

Plant Diversity Collections

(1) Course Number: BO565

(2) Course Title: Plant Diversity Collections

(3) Catalog Description: Skill building course focused on building a plant diversity collection useful in courses and research labs in biological sciences.

(4) Prerequisites: BO310 or permission from instructor of records

(5) Co-requisites: None

(6) Credit Hours: 3

(7) Semester: Spring 2019

(8) Class Meeting Time(s), location and format:

Lecture: W 11-11:50; meet in MG121

Lab: M/F 11-12:50; meet in Biology Greenhouses

(9) Instructor: Dr. Jennifer Weber

(10) Instructor Contact Information:

Office: 107A Magill Hall

Phone: 651-2362

Email: jjweber@semo.edu

Webpage: <https://semo.edu/biology/faculty/weber.html>

Office hours: M/W 2:30-3:30 & R 3-4, or by appointment

(11) Concerns: Questions, comments or request regarding this course should be taken to the instructor. Unanswered questions or unresolved issues about this class can be directed to Dr. James Champine, Department of Biology Chairperson, (jchampine@semo.edu/RH224A).

(12) Course Learning Outcomes:

1. Students will be able to propagate and manage an evolutionary & ecological diversity of plants.
2. Students will be able to design, and construct plant displays appropriate for different ecosystems (e.g.; desert, aquatic, tropical, temperate).
3. Students will be able to work effectively in teams to accomplish both short-term (e.g.; goal setting /planning) and long-term goals (e.g.; completion of projects, presentations)

Graduate level Course Learning Outcome:

1. Graduate students will demonstrate the ability to develop part of the existing collection or build a new plant collection that effectively supports existing biology curriculum. Students will also develop supporting materials to facilitate the use of their collection in demonstrating biological concepts.

(13) Course-specific Required Materials:

Work gloves (any type appropriate for fieldwork or manual labor)

(14) Course Content:

Week	Course Topics
1	Course Introduction/ tour the Biology Greenhouse facilities. Discuss goals for improving the plant diversity collections.
2*	Begin organizing, cleaning, and learning about the main ecosystem types in the greenhouse: aquatic, desert, tropical, temperate.
3	Learn routine care of the diversity collection. Desert Ecosystem: Propagate, trim, & plant cacti and succulents for placement into the desert ecosystem collection.
4*	Desert Ecosystem: Plan appropriate displays and background information for use in biology courses (e.g.; ecological traits, evolutionary diversity, natural history). Tropical/Temperate Ecosystems: Choose appropriate seeds and bulbs to add to the collection, begin organizing displays.
5	Desert Ecosystem: Begin setting desert plants into appropriate displays and curating associated biological information. Tropical/Temperate Ecosystems: Continue care of the plant collection, trouble shoot any issues with current collection. Begin planning new displays and goals for the collection.
6*	Desert Ecosystem: Finish setting plants into displays. Assess needs to better represent desert diversity. Make lists to order appropriate supplies and plants. Tropical/Temperate Ecosystems: Begin construction of the new displays (e.g., bog gardens, orchid/fern walls).
7	Tropical/Temperate Ecosystems: Finish setting plants into displays. Assess needs to better represent tropical and temperate diversity. Make lists to order appropriate supplies and plants.
8*	Desert Ecosystem: Finish curating biological information on the desert collection and these species interact with the desert ecosystem. Take care of plant collection in preparation for spring break
9	Spring Break
10*	Tropical/Temperate Ecosystems: Curate biological information on species in the tropical and temperate ecosystems. Finish construction of new plant displays.
11	Aquatic Ecosystem: Manage aquatic plants that occur in waterfalls, along moist rocky outcrops and in ponds. Assess gaps in the aquatic diversity collection and set goals to expand the collection.
12*	Aquatic Ecosystem: Incorporate new plants into the aquatic displays. Begin curating ecological, evolutionary information on plant specimens.

13	Educational Incorporation: Assemble materials covering species and ecosystem information into digital and hardcopy resources for courses and outreach. Manage and add to a master species list that is organized by ecosystem and/or specific collection. Continue care of the plant diversity collection.
14*	Educational Incorporation: Identify key evolutionary concepts for use in biology courses. (e.g.; indicate on plant tags specimens representing the plant evolutionary tree of life from algae to angiosperms) Continue care of the plant diversity collection.
15	Educational Incorporation: Identify key ecological or ecosystem concepts for use in biology courses. (e.g.; incorporate background information on nutrient cycling in a bog or desert ecosystem) Continue care of the plant diversity collection.
16*	During the final examination period: project & final journals presentations

* Denotes that journal check will occur that week. See syllabus for more information.

(15) Grading Scale and Policies:

GRADED ITEMS	PERCENTAGE
Journal & Work hours	35
Presentations	25
Earned skills badges*	40
Total	100%

*Graduate students: additional expectations described under 'Earned Badge Skills' below.

JOURNAL & WORK HOURS (35%): During the semester, you will keep a journal listing your activities on a weekly basis. The journal should be organized by week. For each week, you will list your activities and skills learned, project teammates, projects in progress/ completed and general participation in the course. Every other week, I will do a journal check (denoted by an asterisk on the syllabus). Students are expected to include relevant work completed outside of 'in-class hours' to research and improve the plant collections. During these checks, we will have individual discussions about your participation and areas for improvement.

PRESENTATIONS (25%): At the end of the semester, students will work in groups of 2-3 people and give brief presentations about what they accomplished in the biology greenhouse this semester. These presentations should include 'before and after' photos – so be sure to take lots of photos during the first few weeks of the course! Presentations should highlight the ecological and evolutionary aspects of the different plant collections.

EARNED BADGE SKILLS (40%): In addition to participation and teamwork, which will be assessed weekly, you are expected to develop individual skills in this course. You may master a currently novice skill or

develop an entirely new skill. Undergraduates are required to earn 3 different 'badges' in this course. Students will be given the opportunity to design new badges, which we can discuss adding to the course on a semester by semester basis. Badges will be introduced in lecture as they become relevant to the course. Student will often be working on more than one badge at a time. All badges take 4-8 weeks of work to be fully earned. Failure to adequately fulfill the requirements of a badge will result in deducted points.

*Graduate students are expected to earn 4 total badges, one of which will be a 'leadership badge'. (see below)

Examples of course badges and requirements to earn each

Tropical ecosystem badge: Students will demonstrate superior skills in the husbandry of tropical plants (adding to and/or caring for and improving the tropical plant collection). In addition, the student should curate taxonomic, ecological, and evolutionary information for the purposes of increasing the utility of the collection for courses at SEMO. This information will be kept in both digital and hardcopy format and made available to users of the biology greenhouses. Finally the student should develop strategies for long-term care and maintenance of the tropical 'room'. {Badges for the aquatic ecosystem, desert ecosystem and specialty collections: carnivorous plants, climbing plants have similar requirements.}

Dedicated builder badge: This badge is intended for a student with a particular aptitude for building structures for the betterment of the greenhouse. Examples of such structures include the large desert planters, the carnivorous bog garden, the tropical rock garden, or a vertical plant wall. Students are expected to draw schematics, research materials, and work closely with the instructor and other students. For complicated projects, students may work in pairs. Students should consider the biological needs of plants involved in the project and document suggestions for proper care of the structure and living collection, as appropriate.

Leadership badge: Students will be an exemplary, independent leader. Specifically these students will take lead roles in projects developed with the instructor. For example, redesigning large collections or curriculum for biology courses. The student should develop a written proposal, timeline of objectives and recruit student helpers (to be vetted with the instructor). The student should be able to navigate hurdles as well as successes with appropriate, logical responses. If projects are completed during the course, the student leader will be expected to give a short presentation on the project to the class. Otherwise, the student will present a progress report in the final week of the course.

Undergraduate students: if you get the following percentages, you will be guaranteed the following grades.

90.0-100%: A
80.0-89.9%: B
70.0-79.9%: C
60.0-69.9%: D
0-59.9%: F

Graduate students: if you get the following percentages, you will be guaranteed the following grades.

90.0-100%: A
80.0-89.9%: B
70.0-79.9%: C
0-69.9%: F

(16) Final Exam Schedule: Not applicable to this course. During this time students will give final presentations.

(17) Dress code:

This is a 'skills-based course', and specific attire is required to participate. You should wear clothes that can get dirty, work gloves, and come prepared to work in the greenhouse. There will be dirt, water, shovels, broken pots, cactus spines, insects, rocks, heavy lifting, etc. Some days you may get very dirty and fatigued. Plan to take breaks and drink water as needed. The temperatures in the greenhouse will be pleasant at the beginning of the semester but will likely become hot as spring proceeds. Plan accordingly. Feel free to bring water and snacks (for breaks) and a change of clothes.

(18) **Academic Honesty** – Southeast Missouri State University expects all students, faculty and staff to operate in an honest and ethical manner. Academic dishonesty is a very serious offense because it undermines the value of your education and the education of others. Students who engage in academic dishonesty face significant penalties. Forms of academic dishonesty include, but are not limited to, plagiarism, cheating, contract cheating, misrepresentation, and other actions you take. Some of these are defined below:

- Plagiarism means passing off someone else's work as your own, whether it is intentional or unintentional.
- Cheating includes copying from another person or source of information to meet the requirements of a task.
- Contract cheating is paying someone else or a company to do your work.
- Misrepresentation means you are posing as someone else or someone else is posing as you to complete a task.
- Collusion means working with one or more people to cheat. If you help someone cheat or plagiarize you will face the same penalties.

For more information, visit the Responsible Redhawks Code of Conduct

<http://www.semo.edu/responsibleredhawks/code-of-conduct.html> or the Faculty Handbook Section (D) on Academic Honesty <http://www.semo.edu/facultysenate/handbook/5d.html>

(19) **Accessibility** – Southeast Missouri State University and Disability Services are committed to making every reasonable educational accommodation for students who identify as people with disabilities. Many services and accommodations which aid a student's educational experience are available for students with various disabilities. Students are responsible for contacting Disability Services to register and access accommodations. Accommodations are implemented on a case by case basis. For more information, visit <http://www.semo.edu/ds/> or contact Disability Services at 573-651-5927.

(20) **Civility** – Your university experience is purposely designed to introduce you to new ideas, help you think effectively, develop good communication skills, evaluate information successfully, distinguish among values and make sound judgements. Doing this well requires respectful and courteous discussion among and between students and the instructor. Together, we must create a space where we

acknowledge and respect others have different experiences, perspectives and points of view. Disagreements are likely. Mutual respect for one another and a willingness to listen are important. Remember, you are responsible for your behavior and actions. There is a no tolerance policy on bullying or harassment of any kind. Additional information on student conduct may be found at:

<http://www.semo.edu/pdf/stuconduct-code-conduct.pdf?ver=1.0> and
http://www.semo.edu/pdf/Conduct_Faculty_Resource_Guide.pdf

(21) **Mandatory Reporting** – I will keep information you share with me confidential to the best of my ability, but as a professor I am legally required to share information about sexual misconduct and crimes I learn about to make our campus and community safe for everyone.

(22) **Student Success** – This course uses SupportNET, Southeast’s student success network, to improve communication between students, faculty and staff on campus. You’ll get emails through SupportNET with information about resources or concerns. Please read these emails—they are sent to help you succeed! You can access SupportNET through your portal, Moodle or directly at supportnet.semo.edu to see any academic alerts, ask for help and to access resources to support your success at Southeast.