Approval Chart for Curriculum Changes

A = Approve I= Information Item[1] R= Advise & Respond[2]

Course Number BIOL 481 or Degree Plan(s) _____

State the requested change and reason. A memo may be attached if more space is necessary.

These changes have been proposed in order to allow the lab and lecture portions of courses to fulfill different areas of requirements in the degree plans for the concurrent revisions to biology majors as originally intended with the major degree plan revisions approved in 2018. Changes to the description are intended only to facilitate the splitting of lecture and lab. No changes in total hours for lab + lectures are proposed. No changes in the content of courses are intended.

Plant Systematics [BIOL 481] (4hrs) changed to:

– Plant Systematics [BIOL 413] (3hrs) & Plant Systematics Laboratory [BIOL 414] (1 hr)

Please find the associated syllabi for the proposed courses.

Circle the number that corresponds to the requested change. Degree plan changes are on the second page.

					COUNCIL[3]					
	Change to a Course	**Dept./School**	**College Academic**	**Deans**	**TEC**	**UGEC**	**UUAC**	**GRAD**	**Provost**	**President**
1.	Title (description unchanged)	A	A	A		I			I	I
(2)	Description (not affecting content)	A	A	A		I			I	I
3.	Course term(s)	A	I	A		I			I	I
4.	Content (substantive change)	A	A	A		I			A	I
(5.)	Number of hours (lecture, lab, contact)	A	A	A		A			A	I
(6.)	Course number within the hundred	A	A	I		I			I	I
7.	Course number beyond the hundred	A	A	A		A			A	I
(8.)	Prerequisites	A	A	A		I			I	I
9.	Course fee(s)	A	--	A		--			A	I
10.	From U to G *or* G to U	A	A	A		A			A	I
11.	Cross list with another department: U or G level	A	A	A		A			A	I
12.	Department of record	A	A	A		A			A	I
13.	Open or close a course	A	A	A		A			A	I
14.	New course — See website for application and process. This change includes combining or splitting a course(s).	A	A	A		A			A	I

Note: When an academic unit does not have a council, the UGEC and/or UUAC will serve as its academic council, depending on the nature of the issue.

Approval Chart for Curriculum Changes

A = Approve I= Information Item[1] R= Advise & Respond[2]

	Change to a Degree Plan	Dept./School	College Academic	Deans	COUNCIL[3] TEC	UGEC	UUAC	GRAD	Provost	Faculty	President	Board of Trustees
1.	University Requirements — Change in approved course content[6]	A	A	A	A				A	--	A	--
2.	University Requirements — Add or drop a required course from the University Requirements chart[6]	A	A	A	A				A	A	A	--
3.	University Requirements — Add or drop a course from a menu within the University Requirements[6]	A	--	--	A				A	--	A	--
4.	University Requirements — Change hours within a menu on the University Requirements chart[6]	A	A	A	A				A	A	A	--
5.	Major — Revision of major [4,5]	A	A	A	A				A	--	A	--
6.	Major — Adopt or change admission requirements	A	A	A	A				A	--	A	--
7.	Major — Add [4,5]	A	A	A	A				A	A	A	I
8.	Major – Discontinue (proposed by the department or college)	A	A	A	A				A	A	A	I
9.	Major – Discontinue (proposed by the Provost)	See below.										
10.	GPA — Revise major or cumulative requirement	A	A	A	A				A	A	A	--
11.	Minor — Revise course selection	A	A	A	I				I	--	I	--
12.	Minor — Add	A	A	A	A				A	--	A	--
13.	Minor – Discontinue (proposed by the department or college)	A	A	A	A				A	--	A	--
14.	Minor – Discontinue (proposed by the Provost)	See below.										
15.	Degree — Add	A	A	A	A				A	A	A	I
16.	Degree – Discontinue (proposed by the department or college)	A	A	A	A				A	A	A	I
17.	Degree – Discontinue (proposed by the Provost)	See below.										
18.	Any change to a graduate degree program	A	A	A	A				A	--	A	--

	Provost-Proposed Change	Provost	Department	Dean	COUNCIL[3] TEC	UUAC	Graduate	Faculty	President	Board of Trustees
1.	Major/Graduate Program – Discontinue (proposed by the Provost)	A	R	R	A			A	A	I
2.	Minor – Discontinue (proposed by the Provost)	A	R	R	A			--	A	--
3.	Degree – Discontinue (proposed by the Provost)	A	R	R	A			A	A	I

Approval Chart for Curriculum Changes

A = Approve I= Information Item[1] R= Advise & Respond[2]

					COUNCIL[3]					
	Change to the Catalog Information	**Dept./School**	**College Academic**	**Deans**	**UGEC**	**UUAC**	**GRAD**	**Provost**	**Faculty**	**President**
1.	General requirements for graduation including course requirements that are common to all majors for all degrees[7]	--	--	--	A			A	A	A
2.	Admission requirements	--	--	--	A			A	A	A
3.	Policies governing academic probation and suspension	--	--	--	A			A	A	A
4.	Requirements for graduating with honors	--	--	--	A			A	A	A

[1] Councils may request additional information about "Information" items. These items are approved as "Consent Agenda."

[2] The Dean and Department should respond to the Provost's recommendation to close a program in writing. Advise & Respond (R) requires that the voting body should receive the written responses at least one week prior to the vote.

[3] All courses that meet University Requirements for general education must go through UGEC. Courses or degrees offered only to students seeking teacher certification must go through the Teacher Education Council. All undergraduate changes must go before the UUAC. All graduate degree plan changes must go through the Graduate Council.

[4] A minimum of 30 hours is required for a major. A maximum is specified for each degree (e.g., BA, BS). The university minimum for elective hours is 6, unless the requirements of external accrediting bodies make it impossible.

[5] Program or course changes that apply to any major that includes Teacher Certification will be reviewed by the college, the Teacher Education Council (TEC), and then the UUAC.

[6] Courses that satisfy ACU's University Requirements (General Education) will normally have lower-level numbering, be free of prerequisites and co-requisites, appeal to more than one or two majors, and "not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession" (SACS 2.7.3). Departments may request exceptions to the first three criteria.

[7] The UUAC approved the clarification that "general requirements for graduation" means the enumerated items in the "General Requirements for Bachelor's Degrees" section of the catalog.

Revised 8-26-19

Curriculum/Catalog Changes Signature Page

Department/School Chair(s)

Thomas E Lee II — *Signature*
22 Jan. 2020 — *Approval date*

Signature — *Approval date*

College Academic Council(s)

Signature
2/2/2020 — *Approval date*

Signature — *Approval date*

Dean(s)

Signature
3/17/2020 — *Approval date*

Signature — *Approval date*

Teacher Education Council

Chair's signature — *Approval date*

General Education Council

Chair's signature — *Approval date*

Undergraduate Academic Council

Chair's signature — *Approval date*

Graduate Council

Chair's signature — *Approval date*

Provost

Signature — *Approval date*

Faculty

Chair of faculty senate — *Approval date*

President

Signature — *Approval date*

Course Syllabus for Plant Systematics

BIOL 413.01 Summer 2020

MW 8:00-11:50 am

Onstead Science Center Room 215

Mission Statements:

ACU: The mission of Abilene Christian University is to educate students for Christian service and leadership throughout the world.

College of Arts and Sciences: The mission of the College of Arts and Sciences is to educate students for worldwide Christian service and leadership through programs of study and other learning experiences that blend a liberal arts education with professional and career education.

Biology Department: The Department of Biology educates students for Christian service and leadership by preparing them to become biological scientists, pre-college teachers, and health care professionals.

Instructor: Dr. Joshua Brokaw, Professor
Office: Halbert-Walling, Room 214
Office Hours: 1-3 pm (MTWR) or appointment*
Phone: 325-674-2168 E-mail: josh.brokaw@acu.edu

*E-mails are welcome at any time and can be used to schedule appointments outside office hours.

Course Description:

BIOL 413 Plant Systematics (3-0-3), summer, even years. A study of the origins and diversification of land plants while emphasizing the classification, evolutionary processes, and phylogenetics of flowering plants based on morphology and molecular genetics. Concurrent enrollment in BIOL 414 required. Prerequisite: BIOL 121/BIOL 122 and BIOL 123/BIOL 124 with minimum grade of 'C.'

Textbook: Plant Systematics, 4th edition, by Judd et al. (2016)

Purpose: Plant Systematics is designed to introduce students to modern methods of plant classification, evolutionary biology, and molecular biotechnology in preparation for a career in scientific research. Part of this preparation for research includes teaching style, grading style, and types of assignments that are similar to what students will experience in early graduate level courses as described in the following sections.

Anticipated Outcomes and Competency Measures: This course provides the opportunity to learn foundational principles and methods of plant systematics with applications in careers in plant biology, ecology, natural resource management, and biotechnology. Students will demonstrate 1) basic understanding of modern biological **classification techniques**; 2) basic knowledge and understanding of **plant diversity and evolution**; and 3) ability to interpret **scientific literature**. Competency in these areas will be assessed by your performance on tests and a term paper. Further information on each assessment method is given below.

Grade Assessment:

Grades	
Test 1	(30%)
Test 2	(30%)
Term Paper	(40%)

Grade Scale

A: (89.5%)
B: (79.5%)
C: (69.5%)
D: (59.5%)
F: less than (59.5%)

Lecture: Lecture meetings will be led by the instructor and cover the topics listed below. Some lecture topics will consist of basic knowledge, such as plant diversity and nomenclature, whereas other topics, such as phylogenetic systematics and species concepts, will involve substantial classroom discussion.

Lecture Topics: * Any changes to schedule of topics will be communicated orally and/or in writing to students.

Topics
Plant Systematics Overview
Classification History
Phylogenetic Systematics
Plant Molecular Systematics
Other Systematic Evidence and Terminology
Species Concepts
Evolution of Plant Diversity
Plant Identification
Plant Nomenclature
Plant Collecting and Documentation
Herbaria

Tests: The tests will consist of short answer and/or multiple choice questions based on material covered during lecture meetings. Test 2 covers the second half of the course and is not fully comprehensive. However, concepts covered will build upon topics from the first half of the semester.

Test Schedule
Test 1: 2nd Monday
Test 2: 3rd Wednesday

All tests should be taken when scheduled. If an acceptable excuse for missing a test is given, you may take it within two days upon your return. **Students must notify the professor prior to the next class that they are requesting a "make-up."** According to university policy, if a student misses a final test with permission, the teacher will record an 'I' (incomplete) for the course grade. The final test may be given at a later date with permission from the college dean.

Term Paper. From the 'Scheduled Topics' list and/or the recommended textbooks, choose a plant group or plant trait of interest; you will review the adaptive history and significance of this group or trait in a phylogenetic context. Share the **topic of interest and a thesis regarding its evolutionary significance** with five key references during the **1st week of class**; references must be primary literature and/or books (minimum of 5 sources); failure to submit a topic will disqualify the final draft from consideration. **By the end of the 2nd week of class, submit a 2000–3000-word rough draft** of the term paper; failure to submit a rough draft will disqualify the final draft from consideration. The final draft will be **due by 11:59 pm on the Sunday following the final day of class**. The final draft will be graded on a 100-point scale using the sum of categories from the following rubric.

Term Paper Rubric.

Category	Exemplary (20 pts)	Effective (17 pts)	Emergent (15 pts)	Elementary (13 pts)	None (0 pts)
Thesis	Clearly and concisely articulates and develops the thesis; scope is suitable for assigned task and focuses all elements of work; firmly establishes significance of project	Effectively articulates and develops the thesis; generally focused and specific; reasonably addresses assigned task; demonstrates significance of project	The thesis of the essay is present but vague and offers limited significance of the essay.	The thesis of the essay is not clear or appropriate and offers little to no explanation of the significance of the essay.	No thesis.
Organization	Superior and carefully organized analysis and discussion of the topic. Each paragraph has a focused idea and excellent supporting detail. Sources are critically synthesized to address chosen topic. Appropriate, logical conclusions are made and connected to the thesis.	Effective analysis and discussion of the topic. Synthesis of information is coherent. Conclusions are appropriate and connected to the thesis.	Weak analysis and discussion of the topic: moderately sustained and developed ideas and acceptable analysis of topic ideas. Conclusions are made, but not entirely supported by presented information or do not attempt to fully address the thesis.	Inadequate analysis and discussion of the topic: ideas are undeveloped, confused or disconnected. Conclusions are not present or are not connected to presented information or thesis.	No discernable organization.
Integrative Learning	Relevant and critical connections exhibited from a variety of sources. Demonstrates deep understanding of connections between historical knowledge and contemporary theories.	Makes generally effective connections from a variety of sources. Shows an understanding of connections between historical knowledge and contemporary theories.	Makes weak connections between sources; shows little understanding of historical knowledge and contemporary theories.	Underdeveloped or missing connections between sources; shows no understanding of historical knowledge and contemporary theories.	No sources.
Appropriate Sources	Information appropriately and fully answers the proposed question. Sources are appropriately synthesized in a way that addresses chosen topic. Appropriate, logical conclusions are made and connected to the research question.	Information is mostly linked to the proposed question. Synthesis of information is coherent. Conclusions are appropriate and mostly connected to the research question.	Attempts are made to relate information to proposed question. Information is connected, but weakly synthesized. Conclusions are made, but not entirely supported by presented information or do not attempt to fully answer question.	No link between information presented and original proposed question. Sources are not connected with little to no synthesis. Conclusions are not present or are not connected to presented information or research question.	No question.
Mechanics and Appropriate Citation of Sources	Excellent command of standard English that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free. Student correctly implements all four of the following information use strategies: 1) selects critical sources; 2) adheres to proper citation and reference style; 3) paraphrases, summarizes, or quotes in ways that are true to original context; 4) distinguishes between common knowledge and ideas requiring attribution. Practices ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Sufficient command of standard English that adequately communicates meaning to readers with infrequent errors in grammar, punctuation or usage. Paper flows well. Student correctly uses three of the information use strategies and practices ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Weak command of standard English. Errors in grammar, punctuation, or usage are present but do not compromise meaning. Student correctly uses two of the information use strategies and practices ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Inadequate command of standard English. Major errors or repeated minor errors in grammar, punctuation, or usage obscure meaning. Student correctly use one or none of the information use strategies and practices ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	Shows no regard for rules of grammar and citation.

Attendance: Attendance is vital for success in this class. It is only 3 weeks long, so this statement should be self-explanatory. Summer travel cannot be used as an excuse for absence. Students who miss any classes must still perform using the same standards for tests as any others students. Thus, absence imposes a substantial risk to performance in a class in which it is difficult to catch up from missed opportunities. The **only** acceptable excuses for missing class are 1) illness with doctor's bill or letter (note: the school medical clinic **does not** provide excuse notes under most circumstances), 2) death in immediate family (parents, siblings, grandparents).

Academic Integrity: Academic integrity is defined as academic work completed as assigned for each class. Violations of academic integrity and other forms of cheating involve the intention to deceive, mislead, or misrepresent. Academic misconduct includes, but is not limited to, the following: 1) Cheating on tests and quizzes, 2) Failure to give credit to sources used in a work in an attempt to present the work as one's own, 3) Submission of papers or projects obtained from another source (e.g., research service or club paper file) as one's own, and 4) Falsifying information orally or in writing. Academic misconduct may result in, but is not limited to, a zero on the assignment and/or an F in the course. Additionally, the department chair, Dean of the College of Arts and Sciences, and the Dean of Student Life will be notified. See the full university policy, including how to appeal a decision, by following this link: https://www.acu.edu/community/offices/administrative/office-of-the-provost/academic-integrity-policy/overview.html

Learning Disabilities: If you have a documented disability and wish to discuss academic accommodations, you must contact the *ACU Student Disability Services Office* (part of *Alpha Academic Service*) at (325) 674-2667 to make an appointment with the Director of Disability Services. In order to receive accommodations, you must be registered with them for each class in which you need accommodations. They will make necessary arrangements in cooperation with instructors.

Behavior/Dress Code: Clothing and behavior should be appropriate to promote learning under lecture and/or laboratory conditions. Any behavior or dress that distracts other students or inhibits learning will receive one warning. If there is a second infringement, you will be asked to leave class. Harassment will not be tolerated: http://www.acu.edu/community/offices/hr-finance/hr/title-ix/overview.html

Faith and Inquiry: As with all areas worthy of inquiry, material in this course **will** challenge your understanding of the world (i.e. challenge your worldview). It is my objective as a mentor to provide the space for your questions and your personal development during this process because I believe that it is essential that we temper our faith through adversity. "Then we will no longer be infants, tossed back and forth by the waves, and blown here and there by every wind of teaching and by the cunning and craftiness of people in their deceitful scheming." **(Ephesians 4:14).**

Course Syllabus for Plant Systematics Lab

BIOL 414.L1 Summer 2020

TR 8:00-11:50 am

Onstead Science Center Room 215

Mission Statements:

ACU: The mission of Abilene Christian University is to educate students for Christian service and leadership throughout the world.

College of Arts and Sciences: The mission of the College of Arts and Sciences is to educate students for worldwide Christian service and leadership through programs of study and other learning experiences that blend a liberal arts education with professional and career education.

Biology Department: The Department of Biology educates students for Christian service and leadership by preparing them to become biological scientists, pre-college teachers, and health care professionals.

Instructor: Dr. Joshua Brokaw, Professor
Office: Halbert-Walling, Room 214
Office Hours: 1-3 pm (MTWR) or appointment*
Phone: 325-674-2168 E-mail: josh.brokaw@acu.edu
*E-mails are welcome at any time and can be used to schedule appointments outside office hours.

Course Description:
BIOL 414 Plant Systematics Lab (0-3-1), summer, even years. Introduction to the methods of biological classification with emphasis on the local flora. Field and laboratory work consist of collection and identification of plant specimens and phylogenetic analysis of plant DNA. Concurrent enrollment in BIOL 413 required. Prerequisite: BIOL 121/BIOL 122 and BIOL 123/BIOL 124 with minimum grade of 'C.' Course fee.

Textbook: Plant Systematics, 4th edition, by Judd et al. (2016)

Purpose: Plant Systematics Lab is designed to give students experience in modern field and laboratory methods commonly incorporated in plant systematics research.

Anticipated Outcomes and Competency Measures: This course provides the opportunity to apply methods of plant systematics with applications in careers in plant biology, ecology, natural resource management, and biotechnology. Students will demonstrate 1) competence in molecular (**DNA** based) systematics **lab techniques**; 2) competence in phylogenetic and/or population genetic **analyses** of molecular data; 3) ability to collect, identify, and prepare plant **voucher specimens;** and 4) ability to make a **research conference presentation**. Competency in these areas will be assessed by your performance two class projects: a plant voucher collection graded for content, correct identification, and preparation for accession into the ACU herbarium and a DNA sequencing project presented to the class and graded for performance and completion. Further information on each assessment method is given below.

Grade Assessment:

Grades	
Plant Family Field Quizzes	(50%)
Plant Collection	(50%)

Grade Scale

A:	(89.5%)
B:	(79.5%)
C:	(69.5%)
D:	(59.5%)
F:	less than (59.5%)

Participation and Field Quizzes: Lab participation is assessed by 5-question plant family ID quizzes conducted in the field. Students will be presented with 5 unknown plant species during each field trip and asked to identify the family of each. Each question is worth 1 point. **Therefore, the minimum grade is a 5 for completed quizzes. However, a zero will be given for lack of participation. No quiz grades will be dropped.**

Plant Voucher Collection: This collection will consist of 20 specimens, which should be properly collected and identified. The specimens should represent 10 different plant families collected from Taylor and adjacent counties. The collection will be graded for content, correct identification, and complete lab data. The collection is **due on the last lab day**.

Late Project Assignments: Late work is always problematic. Because the plant collection is due at the latest possible date during the course, this assignment must be graded based on the level of completion at the due date. Failure to submit any product must result in a grade of '0.' There will be NO course incompletes given for failure to complete assignments. Students can make an appeal to the department chair for an exception. This appeal must be submitted in writing during the term of the course. The appeal must include a written detailed plan of action to complete the course that outlines how each assignment will be completed. After the final day of class, no appeal can be made. There will be no exceptions to these rules. However, assignments can be turned in early for opportunities for review and revision in order obtain a higher grade.

Attendance: Attendance is vital for success in this class. It is only 3 weeks long, so this statement should be self-explanatory. Summer travel cannot be used as an excuse for absence. Students who miss any classes must still perform using the same standards for quizzes and tests as any others students. Thus, absence imposes a substantial risk to performance in a class in which it is difficult to catch up from missed opportunities. The **only** acceptable excuses for missing class are 1) illness with doctor's bill or letter (note: the school medical clinic **does not** provide excuse notes under most circumstances), 2) death in immediate family (parents, siblings, grandparents).

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Current:
Prerequisite: BIOL 112/BIOL 114 and BIOL 113/BIOL 115 with a minimum grade of "C"

This should be changed to:
Prerequisite: BIOL 121/BIOL 122 and BIOL 123/BIOL 124 with a minimum grade of "C"