

Approval Chart for Curriculum Changes

A = Approve I= Information Item¹ R= Advise & Respond²

Course Number BIOL 487 or Degree Plan(s) _____

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

BIOL 487 Comparative Zoology will fulfill requirements for the revised BA and BS degrees in Biology.

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	A
5.	Number of hours (lecture, lab, contact)	A	A	A	A				A	A
6.	Course number within the hundred	A	A	I	I				I	I
7.	Course number beyond the hundred	A	A	A	A				A	A
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	A
11.	Cross list with another department: U or G level	A	A	A	A				A	A
12.	Department of record	A	A	A	A				A	A
13.	Open or close a course	A	A	A	A				A	A
14.	New course — See website for application and process. This change includes combining or splitting a course(s).	A	A	A	A				A	A

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.

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		COUNCIL ³							Board of Trustees	President	Faculty	Provost	GRAD	UUAC	UGEC	TEC	Deans	College Academic	Dept./School	Change to a Degree Plan	
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									I	
8.	Major – Discontinue (proposed by the department or college)	A	A	A	A			A	A	A	I									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									I	
16.	Degree – Discontinue (proposed by the department or college)	A	A	A	A			A	A	A	I									I	
17.	Degree – Discontinue (proposed by the Provost)	See below.																			
18.	Any change to a graduate degree program	A	A	A	A			A	--	A	--									--	

COUNCIL ³										
	Provost-Proposed Change	Provost	Department	Dean	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

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

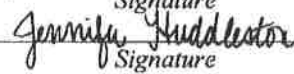
⁵ Program or course changes that apply to any major that includes Teacher Certification will be reviewed by the college, the Teacher Education Council (TEC), and then the UUAC.

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.

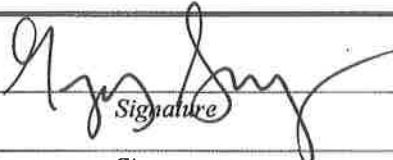
⁷ The UUAC approved the clarification that “general requirements for graduation” means the enumerated items in the “General Requirements for Bachelor’s Degrees” section of the catalog.

Revised 3-8-17

Curriculum/Catalog Changes Signature Page

Department/School Chair(s)	
 Signature	5 Feb 2018 Approval date
 Signature	2/5/18 Approval date

College Academic Council(s)	
 Signature	3.2.18 Approval date
_____ Signature	_____ Approval date

Dean(s)	
 Signature	3/6/18 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

Application for a New Course v10.6

Course ID <i>Subject and Number</i>	BIOL 487
Date APPROVED	
Date DENIED	

I. Systems and Catalog Information Complete each item.

1	Course Developer	Joshua M. Brokaw
2	Course Teacher	Thomas E. Lee, Jr.
3	Course Title	Comparative Zoology
4	Course Abbreviation (if title is over 30 characters)	
5	College	College of Arts & Sciences
6	Department	Department of Biology
7	Number of Credit Hours	4
8a.	Number of contact hours - lecture	3
8b.	Number of contact hours – lab/activity	3
9	Is the course for a fixed or variable number of credit hours?	Fixed Credit
10	Explanation for variable credit	
11	Is the course repeatable for additional credit?	No
12	Maximum total number of credit hours a student can earn for this course	
13	What type of course is this? (Select one. Please see Schedule Type definitions above.)	☐ Traditional lecture ☐ Traditional lab ☒ Traditional lecture/lab ☐ Experiential Learning ☐ Seminar ☐ Studio ☐ Thesis ☐ Dissertation

14	Instructor Workload	Typical 4 credit hour course workload
15	Grade Mode (check all appropriate):	☒ Standard ☐ Credit/No Credit (undergrad only)
16	Maximum Enrollment	20
17	Catalog Description (50 words or less)	BIOL 487, Comparative Zoology (3-3-4) fall. Advanced study of the comparative structure, development, and taxonomy of animals from a synthetic evolutionary perspective.
18	List any prerequisites (course/s, test scores, class standing, major, etc.)	BIOL 112/114, BIOL 113/115, and BIOL 351
19	List any co-requisites	
20	If the course is cross listed, specify the Course ID(s); MUST have signature in Section V from all Department Chairs	
21	Does this course have any special student costs?	☒ No, (only the basic science lab fee) ☐ Yes (If yes, must attach a <u>completed</u> "Request to Add or Change Course Fees" form. Describe in section IV-F.)
22a	How frequently will the course be offered in the Fall ? All, even or odd years?	All
22b	How frequently will the course be offered in the Spring ? All, even or odd years?	Never
22c	How frequently will the course be offered in the Summer ? All, even or odd years?	Never
23	First semester this course will be offered <i>New courses may not be taught under their approved course ID until they appear in the catalog, therefore, no earlier than the coming fall.</i>	Fall, 2020
24	List course/s that should be deleted, (Also, include the last semester for course/s being deleted) <i>A course cannot be deleted when it is a requirement in a degree plan in any department.</i>	

25	Is this course required for a degree/s? <i>If "Yes," attach a revised degree plan(s) reflecting the placement of the new course.</i>	☐ No ☒ Yes
26	Should the addition of this course be retroactively applied to the degree plan it supports?	☒ No ☐ Yes Explanation:
27	Has this course been offered as a Special Topics course?	☒ No ☐ Yes <i>If "Yes," specify the Course ID and enrollment for each term it was taught. (Note: New courses are NOT required to be taught as Special Topics courses prior to being approved. However, a course may be taught once as Special Topics before it is proposed. See the Course Descriptions section of the Catalog for details.)</i>
28	List any courses in which the content overlaps the proposed course. (Course ID and Name) <i>Attach a statement from the instructor/dept chair of the existing course justifying the new offering in Section IV-D.</i>	

II. Curriculum

1	Degree Plan Explanation of how this course affects degree requirements.	It fulfills core requirements for the Biology BS and BA.
2	Justification State the justification for adding this course to the current curriculum. Represent the need.	The Department of Biology currently offers Animal Biology BIOL 221/223 as a sophomore-level lab and lecture course. As the product of many years of discussion and planning for curriculum redevelopment, the Department has decided to develop a sequence of courses in the Biology BS and BA degrees that is more consistent with the majority of biology programs in the United States. An integral part of this plan involves the revision of organism-specific courses, including Animal Biology and Plant Biology, to become junior- or senior-level

		courses and the introduction of Genetics (BIOL 351) during the sophomore year. Animal Biology has been re-envisioned as the senior-level course Comparative Zoology. Unlike Animal Biology, Comparative Zoology will focus less on general concepts that are explored in 300-level courses, such as Cell Biology, Genetics, and Ecology, and will incorporate a substantial component of individual inquiry and application through scientific writing. A new term-paper will consist of an individually chosen topic related to the evolutionary context and significance of an organismal trait or group of organisms. The term paper will be assessed following criteria that are consistent with the rigorous standards of Biology Seminar capstone papers. However, the organismal term paper will focus on topics related to organismal biology, whereas Seminar capstone papers focus on topics related to religious and ethical worldviews. All Biology majors will be required to take at least one senior-level course requiring a term paper about organismal biology; Comparative Zoology will be the course option that fulfills this requirement during the fall semester every year. During a typical four-year Biology degree, students would write a Seminar capstone paper in either the fall or spring of their 4th year and write an organismal term paper during the alternate semester of the 4th year.
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III. Course Design

1. Audience and Course Goal

1	Describe the intended audience, including prerequisite skills.	This course is intended for Biology majors and other students preparing for fields that study organismal biology, including, but not limited to, agriculture, veterinary medicine, and wildlife. Students are expected to have basic knowledge and skills necessary to have completed general biology, genetics, and ecology courses.
2	State the overarching course goal(s) in performance terms.	Students will gain knowledge and appreciation of organismal biology and learn to describe the function and importance of individual organisms in broader contexts. The breadth of knowledge will be assessed through lecture exams. The ability to appreciate and apply specific knowledge in a broader context will be assessed through a term paper and lab practicals.

2. Competencies and Measurements

	Competency	Measurement
1	Students will demonstrate basic knowledge and understanding of animal diversity and evolution.	Lecture exam grades
2	Students will demonstrate basic knowledge and understanding of animal form and function.	Lecture exam grades
3	Students will demonstrate competence in animal dissection techniques.	Lab practical grades
4	Students will demonstrate competence in animal identification and nomenclature.	Lab practical grades
5	Students will demonstrate ability to interpret scientific literature.	Graded as part of a term paper requiring scientific literature review and defense of a thesis
6	Students will demonstrate ability to synthesize scientific information.	Graded as part of a term paper requiring scientific literature review and defense of a thesis
7	Students will demonstrate ability to explain the broader significance of individual organisms in the context of biological diversity and ecosystem function.	Graded as part of a term paper requiring scientific literature review and defense of a thesis

3. Text and Resources

1. Give the full publication information of the textbook/s and other required resources and outside readings.
2. For **combined undergraduate/graduate** courses, make two lists:
 - a. full publication information; label **Undergraduate**.
 - b. full publication information; label **Graduate**. Indicate number of pages required.

The following texts are recommended and serve as the basis for lecture topics:

Integrated Principles of Zoology, 17th edition, by Hickman et al. (2016)

- **Publisher:** McGraw-Hill Higher Education
- **ISBN-13:** 978-1259562310
- **ISBN-10:** 125956231X

Other books and journal articles are assigned on a student-by-student basis according to the topics of their research presentations and term papers.

IV. Supporting Documentation

Supporting documents must accompany proposal prior to preliminary approval by chair and dean.

1	Library — Submit new course application and syllabus to the Dean of the Library. Consult with the director and establish a deadline for completion of the library report. Attach the signed copy of the Library report.
2	Instructional Design — The application and syllabus must be reviewed by the Adams Center. Attach a copy of the Adams Center Review Letter.
3	Content Overlap — Include one document for each course you listed in Section I-I. Attach statement from instructor/dept chair of existing course justifying the new offering.
4	Departmental Resources — List the resources that support the course and are available only through the department, if applicable. Attach the list of the holdings and the location/s.
5	Resources — List resources (other than library or departmental resources) that are needed to support this course (computers, lab equipment, other technology, etc.). Attach a complete list of all items and indicate possible sources or estimated cost of each. List the sources of any needed funds.
6	Expenses — List additional expenses needed to implement this course (full-time or part-time faculty, graduate or lab assistants, student employees, travel, special student costs, room renovation, storage facility, etc.). Attach a complete list of all items, the estimated cost of each and the source of the funds.
7	Justification — Attach all documents referred to in Section II-2
8	Syllabus — Attach the syllabus for the course based upon the anticipated first-semester offering.
9	Provide documentation for all additional attachments here

Application for a New Course v10.6

4	Departmental Resources — List the resources that support the course and are available only through the department, if applicable. Attach the list of the holdings and the location/s.
5	Resources — List resources (other than library or departmental resources) that are needed to support this course (computers, lab equipment, other technology, etc.). Attach a complete list of all items and indicate possible sources or estimated cost of each. List the sources of any needed funds.

This course will use the ACU Natural History Museum located in Onstead (room # to be determined).

This course will use microscopes, anatomical specimens, and dissection equipment located in the Halbert-Walling Research Center (room 252). These resources already exist and are shared with other courses, including General Biology Labs (BIOL 113 & 115).

V. Preliminary Approvals

All supporting documentation has been assembled and attached to this application. I believe this course is ready to be presented to appropriate councils. We have a plan to fund this new course.

Course Number and Name BIOL 487 Comparative Zoology

Primary Department

Thomas E Lee

Department Chair
Dean of the College

6 Feb 2018
Date

Date

Cross-listing Department *Add more lines if multiple departments are cross-listing*

Department Chair
Dean of the College

Date

Date

Cross-listing Department *Add more lines if multiple departments are cross-listing*

Department Chair
Dean of the College

Date

Date

VI. Actions *Place all actions on one page.*

Course ID: BIOL 487

Course Title: Comparative Zoology

1. College Academic Council: (for all courses)

Note: Insert additional lines for College Academic Council action for each college involved in cross-listed courses.

Approved ☒ Denied ☐  Date 3.2.18
College Dean or Director

Approved ☐ Denied ☐ _____ Date _____
College Dean or Director

2. Graduate Council: (for graduate level courses)

Approved ☐ Denied ☐ _____ Date _____
Dean of Graduate School

3. Teacher Education Council: (when applicable)

Approved ☐ Denied ☐ _____ Date _____
TEC Chair

4. University General Education Council: (when applicable)

Approved ☐ Denied ☐ _____ Date _____
Provost's designee

5. University Undergraduate Academic Council: (*undergraduate level courses*)

Approved ☐ Denied ☐ _____ Date _____
Vice Provost

6. Academic Provost: (for all courses)

Approved ☐ Denied ☐ _____ Date _____
Provost

7. President of the University: (for all courses)

Approved ☐ Denied ☐ _____ Date _____
President

Attach notes, comments, or conditions from appropriate councils:

Course Syllabus for Comparative Zoology

BIOL 487.01

Fall 2020

TR 9:30-10:50 am, W 2:00-4:50 pm

Halbert-Walling Research Center Rooms 281 & 252

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 College of Arts and Sciences engages students with humanity's greatest ideas to create understanding, apply insights, and serve the world as Christian thinkers and problem solvers.

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. Thomas E. Lee, Jr., Professor, Biology

Office: Halbert-Walling, Room 202

Office Hours: 12-4 pm (T), 1-2 pm (W), 3-5 pm (F), or appointment*

Phone: 325-674-2574

E-mail: leet@acu.edu

*E-mails are welcome and are encouraged to schedule office hour appointments.

Course Description:

BIOL 487, Comparative Zoology (3-3-4) fall. Advanced study of the comparative structure, development, and taxonomy of animals from a synthetic evolutionary perspective.

Textbook:

Integrated Principles of Zoology, 17th edition, by Hickman et al. (2016)

Prerequisites: BIOL 112/114, BIOL 113/115, and BIOL 351.

Purpose: Comparative Zoology is designed to serve as an advanced biology course for students interested in a career in zoology or related fields, including agriculture, ecology, environmental science, wildlife management, medicine, and teaching. Students will apply comparative methods to achieve a synthetic understanding of the form and function of animals in an evolutionary context.

Anticipated Outcomes and Competency Measures: This course provides the opportunity to consider the form and function of animals, including humans, from an integrated evolutionary perspective. Course competencies include demonstrated knowledge and understanding of 1) the basic **anatomy and embryology** of animal groups; 2) **classification of animals** and principals of animal systematics; 3) **evolutionary history** and unique characteristics of the major clades of animals; and 4) importance of animal diversity to **understanding human characteristics** and the role of humans in the Creation. Competency in this biological knowledge will be assessed by your performance on exams, a term paper, and lab quizzes and practicals as outlined below.

Grade Assessment:

Grades	Weight
4 Exams	(60%)
Term Paper	(15%)
Lab Grade	(25%)
Total	(100%)

Grade Scale:

A:	$\geq 90\%$
B:	80 – 89.99%
C:	70 – 79.99%
D:	60 – 69.99%
F:	$\leq 59.99\%$

There is no extra credit given.

Exam and Term Paper Schedule:

Week	Day	Date	Event
1	Tue	28-Aug	First Day
4	Tue	18-Sep	<i>Exam 1</i>
5	Tue	25-Sep	<i>Term Paper Topic Due</i>
8	Tue	16-Oct	<i>Exam 2</i>
9	Tue	23-Oct	<i>Term Paper Draft 1 Due</i>
11	Tue	6-Nov	<i>Term Paper Final Draft Due</i>
12	Tue	13-Nov	<i>Exam 3</i>
Finals			<i>Exam 4</i>

Exams: Exams will be given on dates noted in the schedule. Exams will **cover all material since the previous exam**. Exams consist of labeling, fill-in-the-blank, and long-answer questions. Questions may have different point values but will have a total value of 100 pts. Exams 1–3 last 80 minutes, and Exam 4 lasts 105 minutes; Exam 4 is not comprehensive but will occur at the exam time during Finals Week.

Attendance: Attendance is vital for success in this class; handouts will not contain everything that you need to know for the exams; you must come to class and take notes! Missed labs cannot be made up. Students that exceed the maximum of 6 TR lecture absences or 3 lab absences will receive an 'F.'

All quizzes, exams, and project due dates should be taken/submitted when scheduled. If an acceptable excuse for missing a quiz or exam is given, you may take it within a week upon your return. The **only** acceptable excuses for missing class are 1) illness with doctor's letter (note: the school medical clinic **does not** provide excuse notes under most circumstances), 2) death in immediate family (parents, siblings, grandparents), 3) official school trips (with **advance** approvals). 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 examination with permission, the teacher will record an 'I' (incomplete) for the course grade. The final examination may be given at a later date (within the first six weeks of the following semester), 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. Share the **topic of interest and a thesis regarding its evolutionary significance** with five key references during the 5th week of class; references must be primary literature and/or books (minimum of 10 sources); failure to submit a topic will disqualify the final draft from consideration. By the 9th week of class, submit a 3000 – 5000-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 the 11th week 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)	Missing (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,	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	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,	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	Shows no regard for rules of grammar and citation.

	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.	strategies and practices ethical and legal restrictions on the use of published, confidential, and/or proprietary information.	confidential, and/or proprietary information.	proprietary information.	
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Lecture Topics: * Any changes to planned topics will be communicated orally and/or in writing to students.

Evolution (Ch. 6)

Embryology (Ch. 8)

Animal Classification (Ch. 10)

Sponges, Cnidaria, Lesser Members of Superphylum Lophotrochozoa, (Chs. 13, 14)

Mollusca (Ch. 16)

Segmented Worms, and Smaller Protostome Phyla (Chs. 15, 17, 21)

Arthropods (Chs. 19, and 20)

Insects, lesser members of the superphylum Ecdysozoa (Chs. 18, and 21)

Echinoderms (Ch. 22)

Hemichordates, non-vertebrate chordates, fish (Ch. 23)

Fishes (Ch. 24)

Amphibians (Ch. 25)

Nonavian reptiles (Ch. 26)

Dinosaurs and other groups (Ch. 26)

Birds (Ch. 27)

Mammals (Ch. 28)

Human evolution

Lab Activities:

The purpose of this lab is to give students hands-on experience with comparative animal anatomy and development that is discussed in lecture. Activities will include the use of evolutionary and structural models, microscopy, and dissection or examination of preserved specimens.

Lab Schedule: * Any changes to planned topics will be communicated orally and/or in writing to students.

- Aug. 29: Evolution (natural selection simulation). Study the geologic timeline with fossils in the Abilene Christian University Natural History Collection.
- Sep 5: (Quiz 1). Embryology models. **Slides** of grasshopper spermatogenesis, starfish composite, frog blastula, frog neural groove, frog embryo, chicken embryo, monkey ovary and specimens. Animal classification, anemone, clam, and squid dissection. **Slides** of hydra, medusa, hydroids, snail radula, and mussel gill.
- Sep. 12: (Quiz 2). *Ascaris*, grasshopper, spider, and crayfish dissection. **Slides** of *Taenia* (tapeworm), Copepoda, larval crab, flea, wings of insects, insect spiracle, pseudoscorpion, mite, tick.
- Sep. 19: (Quiz 3) Starfish, sea urchin, and earthworm dissection. **Slides** of earthworm, leach. Display of Echinodermata. Review for major lab exam.
- Sep. 26: Practical Lab Exam 1.
- Oct. 3: Muscular, skeletal and nervous systems of the lamprey; muscular system of dogfish. Study the anatomy of the perch. **Slides** of amphioxus, sea squirt black and ammocoetes.
- Oct. 10: (Quiz 4) Nervous system of dogfish: make sure that you carefully dissect the shark nervous system. Identify bones in the frog. Circulatory and respiratory of dogfish and lamprey model. Digestive and excretory of the dogfish. **Slide** of olfactory bulb of dogfish (*Squalus*).
- Oct. 17: (Quiz 5) Dogfish and pigeon digestive tract dissection. Gar skull, bowfin skull, and mud puppy skull will be examined in this lab. **Slides** of frog skin, chromatophors of fish. Review for major lab exam.
- Oct. 24: Practical Lab Exam 2.
- Oct. 31: Pigeon, cat, frog, turtle, bear skeletons, alligator skull. **Slide** of bird feathers, cochlea of guinea pig, frog blood slide compared with human blood slide.
- Nov. 7: (Quiz 6) Muscle system of the mink.
- Nov. 14: Quiz 7, Mink respiratory, digestive and circulatory systems.
- Nov. 28: Quiz 8, Sheep brain. Review for major lab exam.
- Dec. 5: Practical Lab Exam 3.

Lab Grade Assessment:

The final lab grade will count towards 25% of the total course grade. There will be a 20-point quiz every regular lab day (except for major exam days and you can drop your lowest quiz grade). The exams are 100 points each.

Lab Grade Points:

Quiz 140 points (one dropped quiz)

Exams 300 points

Total Points = 440

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>

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.

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 exams 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: <http://www.acu.edu/content/dam/community/documents/cas/cas-academic-integrity.pdf>

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 our objective in the Abilene Christian Biology Department to provide the space for your questions and your personal development during this process because we believe that faith will be tempered 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**).

Dr. Tom Lee

Halbert-Walling Research Center Room 202

325-674-2574

leet@acu.edu

Re: Review of BIOL 486: Comparative Zoology

Dear Dr. Lee,

Thank you for the submission of Comparative Zoology: BIOL 487. I reviewed the syllabus based on the ACU application requirements and the syllabus meets those requirements. Please also see the attached checklist. I only have one suggestion for consideration:

- In an effort to keep the syllabus to a manageable length, you might consider referring to the rubrics as you did in the assignment description, but then not including the actual rubric in the syllabus. For example, the wording at the end of the term paper description reads, "....sum of categories from the following rubric." The sentence could read, ".... sum of categories from the rubric provided in Canvas." This would alert students to the rubric while keeping the length of the syllabus a bit shorter.

The syllabus is exemplary! However, this letter is not meant to be a final approval in the course application process. Instead it is intended as a reference, which will be read by your department chair and members of the council, who may also have questions or comments of their own.

We would like to thank you for allowing the Adams Center team to review your course application. The instructional design team would love to work with you on your syllabus, as well as the design, development or revision of this and other courses. If there is anything else we can do to help you, please feel free to let me know.

Sincerely yours,

A handwritten signature in cursive script that reads "Amy Boone".

Amy Boone
alb17a@acu.edu

ABILENE CHRISTIAN UNIVERSITY

LIBRARY

M E M O R A N D U M

DATE: 14:55

TO: Dr. Josh Brokaw

FROM: Mark McCallon, Associate Dean for Library Services

RE: Course Application for BIOL 487 – Comparative Zoology

After reviewing the course application, the library should be able to support the proposed course, depending on the projects chosen by students. If you require additional library resources in support of the course, please contact Erica Pye, Librarian Liaison for the Department of Biology, at exp10a@acu.edu. Thank you for letting the library review the course application.