ARIZONA STATE UNIVERSITY

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GENERAL STUDIES PROGRAM COURSE PROPOSAL COVER FORM

Courses submitted to the GSC between 2/1 and 4/30 if approved, will be effective the following Spring.

Courses submitted between 5/1 and 1/31 if approved, will be effective the following Fall.

(SUBMISSION VIA ADOBE.PDF FILES IS PREFERRED)

DATE 3/9/2009

1. ACADEMIC UNIT: School of Life Sciences

2. COURSE PROPOSED: HPS 330 History of Biology 3
(prefix) (number) (title) (semester hours)

3. CONTACT PERSON: Name: Felicity Snyder Phone: 5-8927
Mail Code: 3301 E-Mail: fsnyder@asu.edu

4. ELIGIBILITY: New courses must be approved by the Tempe Campus Curriculum Subcommittee and must have a regular course number. For the rules governing approval of omnibus courses, contact the General Studies Program Office at 965–0739.

5. AREA(S) PROPOSED COURSE WILL SERVE. A single course may be proposed for more than one core or awareness area. A course may satisfy a core area requirement and more than one awareness area requirements concurrently, but may not satisfy requirements in two core areas simultaneously, even if approved for those areas. With departmental consent, an approved General Studies course may be counted toward both the General Studies requirement and the major program of study. **(Please submit one designation per proposal)**

Core Areas	Awareness Areas
Literacy and Critical Inquiry–L ☐	Global Awareness–G ☐
Mathematical Studies–MA ☐ CS ☐	Historical Awareness–H ☒
Humanities, Fine Arts and Design–HU ☐	Cultural Diversity in the United States–C ☐
Social and Behavioral Sciences–SB ☐	
Natural Sciences–SQ ☐ SG ☐	

6. DOCUMENTATION REQUIRED.
(1) Course Description
(2) Course Syllabus
(3) Criteria Checklist for the area
(4) Table of Contents from the textbook used, if available

7. ***In the space provided below (or on a separate sheet), please also provide a description of how the course meets the specific criteria in the area for which the course is being proposed.***

CROSS-LISTED COURSES: ☐ No ☒ Yes; Please identify courses: Bio 316

Is this a multisection course?: ☒ No ☐ Yes; Is it governed by a common syllabus? _____

Dr. Andrew Smith — Per Dr. Andrew Smith
Chair/Director (Print or Type) Chair/Director (Signature)

Date: 3/9/09

Rev. 1/94, 4/95, 7/98, 4/00, 1/02, 10/08

Mandatory Review

Proposer: Please complete the following section and attach appropriate documentation.

ASU--[H] CRITERIA			
THE HISTORICAL AWARENESS [H] COURSE MUST MEET THE FOLLOWING CRITERIA:			
YES	**NO**		**Identify Documentation Submitted**
☒	☐	**1.** History is a major focus of the course.	syllabus
☐	☐	**2.** The course examines and explains human development as a sequence of events.	
☒	☐	**3.** There is a disciplined systematic examination of human institutions as they change over time.	syllabus
☒	☐	**4.** The course examines the relationship among events, ideas, and artifacts and the broad social, political and economic context.	syllabus
		THE FOLLOWING ARE NOT ACCEPTABLE:	
		• **Courses in which there is only chronological organization.**	
		• **Courses which are exclusively the history of a field of study or of a field of artistic or professional endeavor.**	
		• **Courses whose subject areas merely occurred in the past.**	

Course Prefix	Number	Title	Designation
HPS	330	History of Biology (cross-listed as BIO316)	

Explain in detail which student activities correspond to the specific designation criteria.
Please use the following organizer to explain how the criteria are being met.

Criteria (from checksheet)	**How course meets spirit** (contextualize specific examples in next column)	Please provide detailed evidence of how course meets criteria (i.e., where in syllabus)
1 - History is a major focus	Course is specifically focused on historical persons, events and themes	Throughout. Lectures are themed around particular periods, conceptions, civilizations, discoveries and events. Readings are mostly historical, primary sources.
3 - Disciplined systematic examination of human institutions changing over time	Course is specifically devoted to elucidating the ways human understanding and communication of natural phenomena, and particularly of organisms and environments, has changed over time	Throughout. Both lectures and readings illustrate successive cultural beliefs and practices, and the interplay of social mores and scienctific endeavors
4 - Examines the relationship between events, ideas, artifacts and broad context	Course relates knowledge acquisition to changes in technologies and economic incentives	Throughout. Both lectures and readings relate particular types of knowledge to the technologies used to acquire them and the reasons that such understandings were pursued

BIO 316 / HPS 330, Spring 20XX

History of Biology: Concepts and Controversies in Natural History and Ecology

Personnel:	**Instructor**	**Teaching Assistant**
Name:	Dr. Matt Chew	TBD
Office:	LSA 252	TBD
E-mail:	mchew@asu.edu	TBD
Office Hours:	TBD	TBD

Lecture Time and Location: T-TH (TBD)

COURSE DESCRIPTION

Biology is a diverse and technically complex topic. So is its history. Biological ideas and understandings form and develop within larger social, cultural and political contexts that both inspire and constrain inquiry. The first, necessary function of any natural science is inventory and description of phenomena: natural history. The history of natural history is relatively accessible, because it allows us to look at how various amateur and professional scientists described their more or less direct encounters with nature. They are encounters *you* might have, if you sought them out. We will see that how such encounters are interpreted depends in large part on the context of prior knowledge, belief and expectations in which they occur, and how contexts and interpretations have changed along with human civilizations.

Ecological science has been called "scientific natural history." This suggests that what it means to be a scientist has changed over time, and that later practitioners see earlier ones as unscientific. "Doing" ecology today involves more mathematics and more specialized technology than "doing" natural history, but like their precursors, most ecologists have studied whole organisms or populations and the environments in which they function.

We will consider questions such as: Is ecology more scientific than natural history? More valuable? More appropriate? Is ecology something more than a version natural history with more specialized terminology and stricter methods? In what ways (if any) do ecologists know more than natural historians, and how do societies make use of such knowledge?

There are no prerequisites for the course, but students who have had the motive and opportunity to take long walks, turn over rocks and identify birds and plants have a head start. Novices to the study of natural history, ecology or the history of western civilization will necessarily find the material more challenging than students who have taken introductory courses in such fields. We will not concentrate on contemporary ecological concepts in this course and it cannot substitute other course in current ecological theories or methods.

COURSE ORGANIZATION

The course is divided into three topical segments. Subtopics will be introduced and covered in lectures **and/or** readings.

Segment 1. Natural History Before Darwin: What is Natural History? Some ancient, medieval and Renaissance contexts and views.

Segment 2. Darwin and Natural Selection Darwin's researches, his theory and how it changed the way naturalists (and others) viewed the world.

Segment 3. From Darwin to Ecology: Western civilization and natural history become more "scientific."

COURSE REQUIREMENTS

Attending lectures. Some topics may be discussed **only** during lecture, and concepts from the readings may be expanded or modified during lectures. *Lecture notes will NOT be posted online.*

Reading assigned materials (books, readers, and online materials). ***History courses require extensive reading, and this one is no exception.*** Some topics will be covered **only** in readings. Daily reading assignments are listed below. We expect students to prepare by reading ahead of every class. *UNANNOUNCED QUIZZES ON THE READINGS WILL ACCOUNT FOR 25% OF YOUR GRADE.* ***READ!***

The course reader will be available for purchase at the Alternative Copy Shop, 715 S Forest Avenue, Tempe, AZ 85281, (480) 829-8009. Readings will be posted at the *my*ASU course Blackboard site until the reader is available (approximately week 3). These readings will vary from anecdotes to theory to historical overview.

Links at the *my*ASU course Blackboard site will allow you to access any posted or online reading assignments.

Three required books are available at the ASU bookstore. All were written for nonspecialist audiences and are easy reading, but DON'T FALL BEHIND!

Charles Darwin: *On the Origin of Species* (Facsimile 1st ed.) Harvard Univ. Press.

William Beebe (ed): *The Book of Naturalists.* Princeton University Press.

H.G. Wells: *War of the Worlds.* Modern Library Classics edition *only*.

Taking three (3) scheduled examinations.. Exams will be administered during normally scheduled lecture periods. By registering for the course you are committing yourself to being present for them. All three exams are mid-terms. There is no final exam.

Taking ten (10) unannouced reading quizzes. Quizzes will be administered during normally scheduled lecture periods. By registering for the course you are committing yourself to being present for them.

Late/Makeup Exams and Quizzes: Requests for makeup exams and quizzes will only be considered if made through the ASU Office of Student Affairs and the situation meets university criteria for an excused absence.

Extra Credit and Honors: *There is no extra credit available.* I will accept a limited number of "Footnote 18" supplemental Honors credit term papers. Contact me by January [date] for details.

GRADING

Your course grade will be determined as follows:

Requirement	Points	Proportion
First Mid-term Exam (Segments 1)	100	25%
Second Mid-term Exam (Segment 2)	100	25%
Third Mid-term Exam (Segment 3)	100	25%
Reading quizzes (10)	100 (10 per)	25%
Total	**400 (max)**	**100%**

BIO 316 / HPS 330 Spring 20xx
SCHEDULED READINGS AND LECTURE TOPICS

Please note (again) that assigned readings should be completed before the lectures. Some early readings are posted at the course Blackboard site at **myASU**. Some are available **online.** Others are in the required texts: **Beebe**, **Darwin**, and **Wells**, or the Course **Reader**. The number following each reading gives its approximate number of pages.

Lecture 1. Course Introduction

Reading:	Bates: *The Nature of Natural History*	(myASU)	15

SEGMENT 1: *Natural History Before Darwin*

Lecture 2. Ancient and Medieval Ideas

Readings:	Theophrastus	myASU	14
	Aristotle	Beebe p.12	6
	Pliny	Beebe p.19	4
	Theobaldus	Beebe p.24	2
	Frederick II	Beebe p.26	3
	Gesner	Beebe p.30	4

Lecture 3. European Context

Readings:	Hooke	myASU	4
	Leeuwenhoek	myASU	1
	Leeuwenhoek	myASU	1
	Leeuwenhoek	Beebe p.35	4
	Ray	myASU	1
	Linnaeus	myASU	6
	Linnaeus	Beebe p.45	1
	de Reaumur	Beebe p.39	5
	Buffon	myASU	3
	White	Beebe p.47	5
	Schiebinger	myASU	32

Lecture 4. Discovery and exploration (I)

Readings:	Kalm	Reader (p.tbd)	30
	Coleman	Reader (p.tbd)	15

Lecture 5. Discovery and exploration (II)

Readings:	Bartram	Beebe p.54)	4
	Humboldt	Beebe p.59)	3
	Humboldt	Reader (p.tbd)	8
	Waterton	Beebe p.62)	6
	Audubon	Beebe p.68)	4
	Thoreau	Beebe p.73)	10
	De Candolle	Reader (p.tbd)	9

MIDTERM EXAM 1

SEGMENT 2: *Darwin and Natural Selection*

Lecture 6. Evolution Before Darwin

Reading:	Lamarck	Reader (p.tbd)	10
	Darwin	Beebe p.94-99)	6
	Dear	Reader (p.tbd)	25

Lecture 7. Darwin: *On the Origin of Species* (I)

Reading:	Darwin	Intro, Ch. 1-3	

Lecture 8. Darwin: *On the Origin of Species* (II)

Reading:	Darwin	Intro, Ch. 4-5	

Lecture 9. Darwin: *On the Origin of Species* (III)

Reading:	Darwin	Intro, Ch. 6, 11, 14	

Lecture 10. Responses to Darwin

Reading:	Wilberforce	Online	30

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Lecture 11. Natural History after Darwin

Readings:	Belt	Beebe p.151	8
	Hudson	Beebe p.160	27
	Muir	Beebe p.187	10

Lecture 12. Fact Becomes Fiction: *War of the Worlds* (I)

Readings:	Wells, "Book One"	pp.3-111	109

Lecture 13. Fact Becomes Fiction: *War of the Worlds* (II)

Readings:	Wells, "Book Two"	pp.115-187	73

MIDTERM EXAM 2

Segment Three: *Ecology Emerges*

Lecture 14. Marine Biology Labs and Ecology Field Stations

Readings:	McIntosh	Reader (p.tbd)	25
	Agassiz	Beebe p.122	8
	Huxley	Beebe p.131	19

Lecture 15. Enter Ecology and the Twentieth Century

Readings:	Maeterlinck	Beebe p.197	15
	Fabre	Beebe p.213	20
	Roosevelt	Beebe p.234	9
	Thomson	Beebe p.243	6

Lecture 16. Societies and Communities

Readings:	Wheeler	Beebe p.250	13
	Leivick	Beebe p.263	20
	Burroughs	Beebe p.283	8
	Stefansson	Beebe p.308	6

Lecture 17. Early Schools and Subdivisions of Ecology

Readings:	Digby	Beebe p.335	5
	Seton	Beebe p.341	4
	Roule	Beebe p.345	10
	Eckstein	Beebe p.355	7
	McIntosh Ch. 2	Reader (p.tbd)	30

Lecture 18. Theories and Constructs.

Readings:	Gause	Reader (p.tbd)	11
	Volterra	Reader (p.tbd)	3
	Clements	Reader (p.tbd)	5
	Braun-Blanquet	Reader (p.tbd)	17

Lecture 19. Ecology and War

Readings:	Elton	Reader (p.tbd)	23
	Heard	Beebe p.363	10
	Ionides	Beebe p.375	20

Lecture 20. More Theories and Constructs.

Readings:	McIntosh ch. 7	Reader (p.tbd)	21
	Chapman	Beebe p.417	10
	Odum	Reader (p.tbd)	5

Lecture 21. Ecology, Conservation and Ethics

Readings:	Haskins	Beebe p.427	14
	Klingel	Beebe p.465	13
	Carson	Beebe p.478	17
	Winston	Reader (p.tbd)	17

Lecture 22. The Uncooperative World

Readings:	Takacs	Reader (p.tbd)	30
	Drury	Reader (p.tbd)	10
	Low	Reader (p.tbd)	30

MIDTERM EXAM 3
Instructor Evaluations - Honors Term Papers Due