ARIZONA STATE UNIVERSITY
PROPOSAL TO ESTABLISH A NEW GRADUATE DEGREE

This template is to be used only by programs that have received specific written approval from the Provost's office to proceed with internal proposal development and review. A separate proposal must be submitted for each individual new degree program.

DEGREE PROGRAM

College/School(s) offering this degree: College of Liberal Arts and Sciences

Unit(s) within college/school responsible for program: School of Life Sciences

If this is for an official joint degree program, list all units and colleges/schools that will be involved in offering the degree program and providing the necessary resources:

School of Life Sciences, School of Human Evolution and Social Change, Department of Physics, Department of Chemistry and Biochemistry, School of Earth and Space Exploration, School of Geographical Sciences & Urban Planning, School of Mathematical and Statistical Sciences

Proposed Degree Name: Evolutionary Biology

Doctoral Degree Type: PhD-Doctor of Philosophy

Proposed title of major: Evolutionary Biology

Is a program fee required? Yes ☐ **No** ☒

Requested effective term: Select term and year: Fall 2010
(The first semester and year for which students may begin applying to the program.)

PROPOSAL CONTACT INFORMATION

(Person to contact regarding this proposal)

Name: Michael Rosenberg **Title:** Asc. Professor

Phone: 5-1578 **email:** msr@asu.edu

DEAN APPROVAL

This proposal has been approved by all necessary unit and College/School levels of review, and the College/School(s) has the resources to offer this degree program. I recommend implementation of the proposed degree program. (*Note: An electronic signature, an email from the dean or dean's designee, or a PDF of the signed signature page is acceptable.*)

College Dean name: Sid Bacon
(See attached CLAS approval)
College Dean signature _____ **Date:** _____

College Dean name:
(if more than one college involved)

College Dean signature _____ **Date:** _____

ARIZONA STATE UNIVERSITY
PROPOSAL TO ESTABLISH A NEW GRADUATE DEGREE

This proposal template should be completed in full and submitted to the University Provost's Academic Council [mailto:curriculum@asu.edu]. It must undergo all internal university review and approval steps including those at the unit, college, and university levels. A program **may not** be implemented until the Provost's Office notifies the academic unit that the program may be offered.

DEGREE PROGRAM INFORMATION

Doctoral: PhD-Doctor of Philosophy

Proposed title of major: Evolutionary Biology

1. PURPOSE AND NATURE OF PROGRAM

A. Brief program description (This is a catalog type description of no more than 250 words. Include the distinctive features of the program that make it unique. Do not include program or admission requirements.)

Evolutionary Biology (EVO) is an interdisciplinary graduate degree program that will provide Ph.D.-level training in the historical, conceptual, empirical, and quantitative aspects of biological evolution. Evolution cuts across the biological sciences in ways that few other foci do: it provides bridges between temporal and spatial scales, allows integration of information and patterns across levels of organization, and informs the theoretical foundations of subfields ranging from population genetics to systematics to ecosystem ecology. Forgoing emphases on particular taxa or methods, the program focuses on understanding the patterns and processes that have and continue to shape life on Earth, training the next generation of scientists to use this knowledge to meet present and future challenges to the biosphere and human health in the face of increasing environmental perturbation.

B. Total credit hours required for the program: 84

C. Are any concentrations to be established under this degree program? ☐ Yes ☒ No

2. PROGRAM NEED.

Explain why the university needs to offer this program (include data and discussion of the target audience and market).

Evolution is a fundamental scientific concept underlying all aspects of modern biological, environmental, and health related research; the program would be synergistic with state initiatives such as the U of A College of Medicine in partnership with ASU program in Phoenix and the general enhancement of biotechnology resources such as the Translational Genomics Research Institute. The proposed PhD in Evolutionary Biology fits with the university's strategic goals in many respects. It embraces the transdisciplinary spirit of training and research which is a core principle of the New American University and the Graduate College. The interdisciplinary graduate training opportunities in this program bridge current unit-based programs, such as those in the School of Life Sciences and the School of Human Evolution and Social Change, and will facilitate collaborations across units and centers. It officially links major research institutes and centers in a common graduate initiative, including the Institute for Human Origins, the International Institute for Species Exploration, and the Center for Evolutionary Functional Genomics section of the Biodesign Institute. Research and principles of the program underlie major university foci, including initiatives in environmental sustainability and human health.

3. IMPACT ON OTHER PROGRAMS.

List other academic units that might be impacted by the proposed program and describe the potential impact (e.g., how the implementation of this program

might affect student headcount/enrollment, student recruitment, faculty participation, course content, etc. in other programs). Attach letters of collaboration/support from impacted programs.

This interdisciplinary degree program will involve faculty from the School of Life Sciences, the School of Human Evolution and Social Change, the Department of Physics, the Department of Chemistry and Biochemistry, the School of Earth and Space Exploration, the School of Geographical Sciences & Urban Planning, and the School of Mathematical and Statistical Sciences. We anticipate new collaborations among graduate students and faculty in these different units. We expect that the evolution graduate program will attract highly competitive students to the participating units. Furthermore, two new core courses will be formed which will be a significant enrichment to the spectrum of courses available to graduate students of the participating units.

4. **PROJECTED ENROLLMENT** How many new students do you anticipate enrolling in this program each year for the next five years? Please utilize the following tabular format.

We expect that in the first year of the of the program we will obtain about 5 incoming students, with the possibility that a few first year PhD students in existing programs might matriculate into the new program as well. Once the program is established, we anticipate about 10 new students per year, leading to a standing student body of approximately 50.

5-YEAR PROJECTED ANNUAL ENROLLMENT					
	1st Year	**2nd Year** (Yr 1 continuing + new entering)	**3rd Year** (Yr 1 & 2 continuing + new entering)	**4th Year** (Yrs 1, 2, 3 continuing + new entering)	**5th Year** (Yrs 1, 2, 3, 4 continuing + new entering)
Number of Students Majoring (Headcount)	10	20	30	40	50

5. **STUDENT LEARNING OUTCOMES AND ASSESSMENT**

A. List the knowledge, competencies, and skills students should have when they graduate from the proposed degree program. (You can find examples of program Learning Outcomes at (http://www.asu.edu/oue/assessment.html).
-See below-

B. Describe the plan and methods to assess whether students have achieved the knowledge, competencies and skills identified in the Learning Outcomes. (You can find examples of assessment methods at (http://www.asu.edu/oue/assessment.html).

1. **Outcome:** Core competency in related discipline principles.

1. **Assessment:** Students must receive a B (3.0) or better in the two 3 credit core courses. In addition, they must maintain a cumulative 3.0 GPA in the courses on their plan of study in their particular area of study. This capability will also be critically assessed in the written and oral comprehensive exams for qualification to candidacy.

2. **Outcome**: Ability to independently conduct research in science, including planning experiments, mastery of skills needed to execute the plans and interpretation of results.

2. **Assessment**: The assessment of this status will be through the dissertation advisor on a continuous basis. In addition, the student will organize and present their research progress to their dissertation committee meetings annually. The dissertation advisor will prepare an annual evaluation of the student's progress that incorporates committee input; this evaluation will be given to the student for comment, and then the report and any student comments will be provided to the evolution executive committee. As part of the qualifying exam, students will prepare a research proposal

and be evaluated on it. The final assessment will be the final defense of the dissertation.

3. **Outcome**: The students will learn how to present and publish their research project results in a manner that makes a significant contribution to science.

3. **Assessment**: The student's research should be submitted for publication in one or more peer-reviewed journals (actual publication may occur after graduation). The student's contribution may be part of a large report, but the aspect that the student contributed should be clearly identifiable and represent independent research. The total accomplishment of the student will be presented in a written dissertation that will be evaluated by the dissertation committee.

4. **Outcome**: Ability to function productively in an interdisciplinary scientific endeavor. This includes the ability to make critical evaluations of the relative merit of research projects in regard to evolutionary biology.

4. **Assessment**: As part of the core course, students will be presented with problems in interdisciplinary research and asked to evaluate literature and presentations in diverse areas. They will be graded on this ability. In addition, students will be engaged in dissertation projects that explicitly involve interdisciplinary research and will be evaluated on it. The dissertation committee will judge how well the student's research proposal is designed and justified.

5. **Outcome**: The student will learn to effectively communicate scientific principles and issues.

5. **Assessment**: In addition to laboratory meetings and their required works-in-progress annual presentations to the dissertation committee, students will be given frequent opportunities to present their research in public at national/international meetings.

6. ACCREDITATION OR LICENSING REQUIREMENTS (if applicable). Provide the names of the external agencies for accreditation, professional licensing, etc. that guide your curriculum for this program, if any. Describe any requirements for accreditation or licensing.

N/A

7. FACULTY, STAFF AND RESOURCE REQUIREMENTS

A. Faculty

i. Current Faculty. List the name, rank, highest degree, area of specialization/expertise and estimate of the level of involvement of all current faculty who will teach in the program.

Level of involvement:

1 = High: Member of current planning committee, likely teaching core course, supervising graduate students
2 = Intermediate: Graduate faculty member, teaching elective, supervising students
3 = Low: Graduate faculty member, teaching elective, may serve on dissertation committees, but unlikely to be a primary advisor

Academic unit abbreviation

DCB, Department of Chemistry and Biochemistry
DMS, Department of Mathematical and Statistical Sciences
PHYS, Department of Physics
SESE, School of Earth and Space Exploration
SHESC, School of Human Evolution and Social Change
SGS, School of Geographical Sciences & Urban Planning

SoLS, School of Life Sciences

Faculty
Alan Rawls, Associate Professor, PhD, (SoLS), developmental genetics, 2
Ananias Escalante, Associate Professor, PhD, (SoLS), evolution of disease, 1
Andrew Hamilton, Assistant Professor, PhD, (SoLS), 1
Anne Stone, Associate Professor, PhD, (SHESC), 2
Banu Ozkan, Assistant Professor, PhD, (PHYS), protein structural evolution, 2
Bill Kimbel, Professor, PhD, (SHESC), 2
Brian Verrelli, Assistant Professor, PhD, (SoLS), population genetics, 1
Curtis Marean PhD, (SHESC), 2
Don Johanson, Professor, PhD, (SHESC), human evolution, 3
Everett Shock PhD, (SESE), 2
Gary Schwartz, Associate Professor, PhD, (SHESC), 1
Gro Amdam, Associate Professor, PhD, (SoLS), 2
Jack Farmer PhD, (SESE), 2
James Collins, Professor, PhD, (SoLS), 3
James Elser, Professor, PhD, (SoLS), 2
Jane Buikstra, Professor, PhD, (SHESC), 2
Jeanne Wilson-Rawls, Assistant Professor, PhD, (SoLS), 2
Jennifer Fewell, Professor, PhD, (SoLS), 2
Jiunn Liang (Julian) Chen PhD, (DCB), 3
John Chaput, Assistant Professor, PhD, (DCB), chemical evolution, 3
Juergen Gadau, Associate Professor, PhD, (SoLS), 1
Kathleen Pigg, Professor, PhD, (SoLS), paleontology, 2
Kaye Reed, Professor, PhD, (SHESC), 2
Kenro Kusumi, Associate Professor, PhD, (SoLS), 2
Kim Hill PhD, (SHESC), 2
Manfred Laubichler, Professor, PhD, (SoLS), 2
Mark Spencer PhD, (SHESC), 3
Marty Wojciechowski, Associate Professor, PhD, (SoLS), 1
Michael Rosenberg, Associate Professor, PhD, (SoLS), computational evolution and bioinformatics, 1
Pat Fall PhD, (SGS), 3
Phil Hedrick, Professor, PhD, (SoLS), population genetics, 1
Quentin Wheeler, Professor, PhD, (SoLS), systematics and taxonomy, 2
Rebecca Fisher, Assistant Professor, PhD, (SoLS), evolutionary morphology, 1
Robert Williams PhD, (SHESC), 3
Shu-Chuan (Grace) Chen, Assistant Professor, PhD, (DMS), 3
Stephen Pratt, Assistant Professor, PhD, (SoLS), 2
Stuart Newfeld, Associate Professor, PhD, (SoLS), developmental genetics, 2
Sudhir Kumar, Professor, PhD, (SoLS), molecular evolution and bioinformatics, 1
Tom Dowling, Professor, PhD, (SoLS), population genetics, 1
Wim Vermaas, Professor, PhD, (SoLS), 2
Yuseob Kim, Assistant Professor, PhD, (SoLS), theoretical genetics, 1

ii. **New Faculty**. Describe the new faculty hiring needed during the next three years for sustaining the program and list the anticipated schedule for addition of these faculty.

Currently there are many faculty members with expertise in evolutionary biology at ASU (please see list above). Therefore no new hires are needed.

iii. **Administration of the program.** Explain how the program will be administered for the purposes of admissions, advising, course offerings, etc. Discuss the available staff support.

Executive Committee: The activities and requirements for this program will be determined and overseen by an Executive Committee. The Executive Committee will include representatives from all participating units. An acting Director of the program has been

voted by the participating faculty. After the approval of the degree program, the official director will be elected by the members of the program. An acting Working Committee has been formed from faculty volunteers across the participating units by the acting director and will constitute the future Executive Committee following necessary approvals.

Responsibilities of the Executive Committee

- oversee the effort of recruitment of new students; recommend admission of new students in consultation with participating units, approval of and subsequent oversight of student's plans of study (POS) and progress, oversight of interdisciplinary composition of supervisory committees. In the future, as the program expands, we anticipate that a separate Graduate Committee will be formed, which will oversee student progress, and will be chaired by a member of the executive committee who will report to the Director and the Executive Committee.

- oversee the content and execution of the core course. We expect that there will be a need for constant updating of material and organization of the course. This course will be essential for introduction of not only advanced concepts and techniques in evolutionary biology, but also for introduction of students to a broad spectrum of research.

Administrative support

Administrative staff support for the administration of the program will be provided by the School of Life Sciences. The program will be overseen by an Executive Committee of Faculty representing the units involved.

Student support will primarily come from the existing block grants distributed to the units by the Graduate College, research grants by the faculty advising the students, departmental teaching opportunities and fellowships established through private donations. Students will have the opportunity to choose any laboratory in the program, with the consent of the lab director.

B. Resource requirements to launch and sustain the program. Describe any new resources required for this program's success such as new staff, new facilities, new library resources, new technology resources, etc

No new resources are needed.

8. CURRICULAR STRUCTURE OF THE PROPOSED PROGRAM

A. Admission Requirements The requirements listed below are Graduate College requirements. Please modify and/or expand if the proposed degree has additional admissions requirements.

i. Degree. Minimum of a bachelor's degree (or equivalent) or a graduate degree from a regionally accredited College or University or of recognized standing in a related field such as biology, anthropology, geology, chemistry, physics, or mathematics.

Modify or expand, if applicable: N/A

ii. GPA. Minimum of a 3.00 cumulative GPA (scale is 4.0=A) in the last 60 hours of a student's first bachelor's degree program Modify or expand, if applicable: Graduate College policies apply.

iii. English Proficiency Requirement for International Applicants. If applicable list any English proficiency requirements that are higher than and/or in addition to the Graduate College requirement. (See Graduate College policy and procedures http://graduate.asu.edu/admissions/international.html#proficiency): Graduate College policies apply.

iv. Required Admission Examinations.
☒GRE ☐GMAT ☐Millers Analogies**.**

v. Application Review Terms. Indicate all terms for which applications for admissions are accepted and the corresponding application deadline dates, if any:

☒ Fall Deadline (month/year): 15 December 2009 and yearly thereafter

☐ Spring Deadline (month/year):

☐ Summer Deadline (month/year):

B. Degree Requirements. Below provide the curricular requirements for the proposed degree program.

i. ***Total credit hours (cr hrs) required for the degree program****:* 84

ii. Core courses. List all required core courses and total credit hours for the core (required courses other than internships, thesis, dissertation, capstone course, etc)**.** Omnibus number courses can not be used as core courses. Permanent numbers must be requested by submitting course proposal to ACRES for approval.

Total cr hrs for required core courses*:* 9

Course prefix & number	Course title	Credit hours	New course?
EVO 501	Principles of Evolution	3	Y ☒ N ☐
EVO 510	Research Areas of Evolution	2	Y ☒ N ☐
BIO 514	Biometry	4	Y ☒ N ☐

(Please expand table as needed. Right click in white space of last cell. Select "Insert Rows Below"

Omnibus courses associated with new degree:

Course prefix & number	Course title	Credit hours	New course?
EVO 598	Evolutionary Biology, Special topics	1-3	Y ☒ N ☐
EVO 784	Doctoral Internship	var	Y ☒ N ☐
EVO 790	Doctoral Reading and Conference	var	Y ☒ N ☐
EVO 795	Doctoral Continuing Registration	var	Y ☒ N ☐
EVO 799	Doctoral Dissertation	12	Y ☒ N ☐

(Please expand table as needed. Right click in white space of last cell. Select "Insert Rows Below"

iii. Elective Courses

Total cr hrs for program electives*:* 9

Provide a sample list of elective courses: (although 400 level courses are listed below, only up to 6 cr hrs of 400 level courses can be included on graduate plans of study.)

Course prefix & number	Course title	Credit hours	New course?
ASM 525	Primate Paleobiology	3	Y ☐ N ☒
ASM 454	Comparative Primate Anatomy	3	Y ☐ N ☒
ASM 543	Primatology	3	Y ☐ N ☒
ASM 560	Human Growth and Development: An Evolutionary Perspective	3	Y ☐ N ☒
BIO 406	Computer Applications in Biology	3	Y ☐ N ☒
BIO 423	Population and Community Ecology	3	Y ☐ N ☒

BIO 424	Mathematical Models in Ecology	4	Y ☐ N ☒
BIO 425	Animal Ecology	3	Y ☐ N ☒
BIO 431	Genes, Development, and Evolution	3	Y ☐ N ☒
BIO 440	Functional Genomics	3	Y ☐ N ☒
BIO 446	Principles of Human Genetics	3	Y ☐ N ☒
BIO 455	Introduction to Comparative Genomics	3	Y ☐ N ☒
BIO 456	Bioinformatics and Molecular Evolution	3	Y ☐ N ☒
BIO 464	Photobiology	3	Y ☐ N ☒
BIO 461	Comparative Animal Physiology	3	Y ☐ N ☒
BIO 494/598	Ecological Stoichiometry	3	Y ☐ N ☒
BIO 470	Systematic Zoology	4	Y ☐ N ☒
BIO 522	Populations: Evolutionary Ecology	3	Y ☐ N ☒
BIO 526	Quantitative Ecology	3	Y ☐ N ☒
BIO 545	Populations: Evolutionary Genetics	3	Y ☐ N ☒
BIO 547	Techniques in Evolutionary Genetics	3	Y ☐ N ☒
BIO 552	Developmental Genetics	3	Y ☐ N ☒
BIO 561	Comparative Animal Physiology	3	Y ☐ N ☒
BIO 598	Ecology and Evolution of Infectious Diseases	3	Y ☐ N ☒
BCH 568	Molecular Mechanisms of Photosynthesis	3	Y ☐ N ☒
BCM 461/462	Biochemistry	3	Y ☐ N ☒
CBS 520	Modeling and Computational Biology	3	Y ☐ N ☒
CBS 530	Introduction to Structural and Molecular Biology	3	Y ☐ N ☒
CHM 460	Biological Chemistry	3	Y ☐ N ☒
CHM 598	Protein Design and Evolution	3	Y ☐ N ☒
CHM 598	Quantitative Foundations of Modern Biochemistry	3	Y ☐ N ☒
GPH/PLB 422	Plant Geography	3	Y ☐ N ☒
GPH 483	Geographic Information Analysis	3	Y ☐ N ☒
GPH 596	Advanced Spatial Statistics	3	Y ☐ N ☒
MAT 451	Mathematical Modeling	3	Y ☐ N ☒
MAT 591B	S:MATH BIOLOGY	3	Y ☐ N ☒
MAT 598	Mathematical Ecology	3	Y ☐ N ☒
MCB/MIC 445	Techniques in Molecular Biology/Genetics	3	Y ☐ N ☒
MCB/MIC 446	Techniques in Molecular Biology/Genetics Lab	3	Y ☐ N ☒
MCB 555	Advanced Molecular/Cell Biology	6	Y ☐ N ☒
PLB/CBS 494/591	Phylogenetic analysis	3	Y ☐ N ☒
PLB 407	Plant Fossils and Evolution	3	Y ☐ N ☒
PLB 410	Angiosperm Taxonomy	3	Y ☐ N ☒
PLB 432	Computer Applications in Biology	3	Y ☐ N ☒
STP 425	Stochastic Processes	3	Y ☐ N ☒
STP 421	Probability	3	Y ☐ N ☒
STP 530	Applied Regression	3	Y ☐ N ☒
STP 531	Applied Analysis of Variance	3	Y ☐ N ☒
STP 532	Applied Nonparametric Statistics	3	Y ☐ N ☒
STP 535	Applied Sampling Methodology	3	Y ☐ N ☒

(Please expand table as needed. Right click in white space of last cell. Select "Insert Rows Below")

iv. **400-Level Courses.** No more than 6 credit hours of 400-level coursework can be included on graduate student program of study.

1. Are 400-level ASU courses allowed on student program of study for this degree? ☒ Yes ☐ No

2. If yes, how many credit hours? 6

v. **Additional Requirements (if applicable).** Provide a brief description of any additional requirements (e.g. internships, clinicals, field study, etc.**)** N/A

Total cr hrs for other required courses: N/A
List course info for any additional requirements (e.g. internships, clinicals, field study, etc.)

Course prefix & number	Course title	Credit hours	New course?
			Y ☐ N ☐

(Please expand table as needed. Right click in white space of last cell. Select "Insert Rows Below")

vi. ***Total cr hrs required for research and/or other elective courses per student's research area***: 54 (Students who come with a previously awarded master's degree in a related discipline may need to complete fewer than 54 cr hours, since up to 30 cr hrs from their master's degree can be accepted towards this PhD program per Graduate College policy.)

vii. **Culminating experience** for the proposed program (please check all that apply and provide requested information):

	Required?	Brief description of the applied project or the capstone course, as applicable.	Course prefix and number	Credit hours
Thesis (master's only)	☐			
Applied Project (master's only)	☐			
Capstone course (master's only)	☐			
Dissertation (doctoral only)	☒	EVO 799 Dissertation		12 cr hrs

(Please expand table as needed. Right click in white space of last cell. Select "Insert Rows Below")

viii. **If applicable, provide the following information about any concentration(s) associated with this degree program**. Please attach a sample program of study with timeline for each concentration listed below. N/A

ix. **For Doctoral Degrees, indicate the Master's Degree Credit Allowance:** If approved by the student's supervisory committee, does the program allow up to 30 credit hours from a previously awarded master's degree to count towards the degree requirements for this doctoral program? ☒Yes or ☐No

x. **Committee:** Required Number of Thesis or Dissertation Committee Members (must be at least 3 including chair or co-chairs): *4*

xi. **Foreign Language Exam.**
Foreign Language Examination(s) required? ☐Yes ☒No

If yes, list all foreign languages required:

xii. **Course Prefix(es)** Provide the following information for the proposed graduate program.
- **a.** Will a new course prefix(es) be required for this degree program? Yes ☒ No ☐
- **b.** If yes, complete the Request for establishment of a new prefix for each prefix and submit with this proposal**. See accompanying proposal**

New Courses Required for Proposed Degree Program. Provide course prefix, number, title, and credit hours and description for any new courses required for this degree program.

EVO 501. Principles of Evolution, 3 cr.

As we are building a new graduate program in Evolution, we need a core introductory course that introduces the fundamental background of the theoretical, empirical,

classical, and experimental principles of evolutionary biology at an advanced level. All Evolution graduate programs at peer institutions have this core course, and there is no existing or even comparable course available for graduate students at ASU. This core course will ensure that incoming graduate students in the program will have the same base of knowledge in evolutionary biology that is required to enroll in the advanced elective graduate courses. In addition, it will provide a vehicle for training and interaction among incoming and existing Evolution graduate students in the program in one place.

The purpose of this course is to introduce all incoming Evolution graduate program students, as well as those interested from other graduate degree programs, to the principles of evolutionary biology from a theoretical, empirical, classical, and experimental perspective. Students will learn why evolution is the fundamental concept that underlies all life sciences and how it contributes to advances in medicine, public health and conservation. The course will cover historical perspectives including treatment from Charles Darwin's initial views on evolution from observations of examples in nature, through the Modern Synthesis, up to current methodologies across disciplines, for example, molecular techniques to build phylogenetic trees and species relationships. Models and mechanisms of evolution and speciation are discussed and are followed by the origin and evolution of humans and our close relatives. The course concludes by examining the broader impact of these core principles in society and on global initiatives in general including health and conservation, as well as debates for and against evolution in practice. Each topic is lecture-based and students will learn these principles from various faculty members who participate in the Evolution graduate program, with expertise and backgrounds in theoretical and organismal biology, paleontology, systematics, and molecular biology.

EVO 510. Research Areas of Evolution 1 cr.
(Student will take this course twice in fall and spring semesters of first year for a total of 2 cr hrs)

This course is an informal seminar for first year students in the PhD program. It serves a number of purposes: (1) to give students the opportunity to meet in an informal setting, every faculty participating in the evolutionary biology graduate program and to learn about their labs and research; (2) to give every faculty member in the program the opportunity to meet every new student in the program each year, learning of their interests and plans; (3) to foster a community among the students by giving them further opportunities to interact as a cohort with individual faculty in a casual setting. Similar first year survey seminars are common at successful evolution programs at other universities (e.g., Yale University and Stony Brook University) and serve to bring new students and faculty together in a setting beyond the formal lecture courses before they get lost in their individual labs.

The 1 credit course is required for first year PhD students in the evolutionary biology program. They will be expected to take this course in both the fall and spring semesters of their first year. The course design is such that the students will meet once a week (for about an hour) with a different faculty member (or pair of faculty members depending on total numbers and overlapping interests) over the course of the academic year. Faculty will give an informal presentation on their research to the students; students will have the opportunity to discuss the interests. The course will be organized by the program director, who in consultation with the program faculty, will arrange a schedule such that each faculty member in the program participates in the seminar once per academic year.

College of Liberal Arts and Sciences

Support Memo

From: Sid P. Bacon [mailto:spb@asu.edu]
Sent: Friday, October 16, 2009 3:13 PM
To: curriculumplanning@asu.edu
Cc: Jenny Smith
Subject: PhD degree in evolutionary biology

I support the attached degree proposal.

Sid

SID P. BACON
Dean of Natural Sciences
College of Liberal Arts and Sciences
Arizona State University | P.O. Box 876505 | Tempe, Arizona 85287-6505
480.965.4795 | Fax: 480.965.1093 | e-mail: Sid Bacon

Sid,

The CLAS Curriculum Committee and Senate have approved the attached proposal for a PhD degree in Evolutionary Biology. Please forward the proposal with your endorsement to curriculumplanning@asu.edu

Thank you,

Jenny

JENNY SMITH
Executive Assistant
College of Liberal Arts and Sciences
Arizona State University | P.O. Box 876605 | Tempe, Arizona 85287-6605
480.965.6506 | Fax: 480.965.2110 | e-mail: jenny.smith@asu.edu

Jenny Smith

From: Juergen Gadau
Sent: Friday, September 04, 2009 12:08 PM
To: Jenny Smith
Subject: FW: graduate program in evolution

Hi Jenny

Here is an impact statement from SHESC for the new Evolutionary Biology program.

Ciao, Juergen

Dr. Jürgen Gadau
Associate Professor
Associate Director for Graduate Studies
School of Life Sciences
PO Box 874501
Tempe, AZ, 85287-4501
tel. 480-965-2349
fax. 480-965-6899
jgadau@asu.edu

-----Original Message-----
From: Anne Stone [mailto:acstone@asu.edu]
Sent: Tuesday, September 01, 2009 9:00 PM
To: jgadau@asu.edu
Subject: graduate program in evolution

Dear Juergen,

I do not see any conflict with our programs, and I am happy to support the formation of a graduate program in Evolutionary Biology.

Best wishes,
Anne Stone

Graduate Director,
School of Human Evolution and Social Change

ARIZONA STATE UNIVERSITY

26 August 2009

To Whom It May Concern:

I am writing to express my enthusiastic support of the proposal for a new PhD degree program in Evolutionary Biology. One of the main research strengths of the School of Life Sciences is evolution and related fields. Two faculties within SOLS have evolution in their name "Ecology, Evolution & Environmental" and "Genomics, Evolution, Bioinformatics" and as Theodosius Dobzhansky (1900-1975) has put it so nicely "nothing in biology makes sense except in the light of evolution".

This new program will build on that strength and extend our ability to attract the best graduate students to ASU. We expect a significant number of our faculty to be actively involved. I look forward to helping as the process moves forward. Please feel free to contact me if there are any questions.

Sincerely,
Jürgen Gadau
Associate Professor
Associate Director, Graduate Studies
School of Life Sciences, Arizona State University

MAIN CAMPUS

COLLEGE OF LIBERAL ARTS AND SCIENCES
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ASU SCHOOL OF EARTH & SPACE EXPLORATION
ARIZONA STATE UNIVERSITY

COLLEGE OF LIBERAL ARTS AND SCIENCES

P.O. BOX 871404
TEMPE, AZ 85287-1404

(480) 965-5081
FAX: (480)965-81(
sese.asu.edu

To: Jürgen Gadau
From: Kip Hodges, Director, School of Earth and Space Exploration
Date: August 25, 2009

Re: New Graduate Degree in Evolutionary Biology

I write today in support of the initiative to establish a new Ph.D. degree at ASU in Evolutionary Biology. This is a well-conceived opportunity for the university to leverage its broadly distributed strengths in various aspects of biological evolution and develop a truly transdisciplinary program.

My only significant concern with this proposal as it stands is that it is so transdisciplinary that it would seem preferable if a variety of schools and departments (not just SOLS) be responsible. For example, it is quite probable that SESE hiring initiatives in the next few years will target at least one evolutionary biologist with a stronger "deep-time" bent than our colleagues in SOLS currently have, and there are certainly more faculty from other units (e.g., newly appointed Jay Taylor in Mathematics) who would be great additions. What is the logic for all but one faculty member with a Level 1 involvement being from SOLS? Would there not be a benefit to have a broader spectrum of faculty with tenure homes in other units as part of the planning committee and teaching core courses? If this more broad-based approach were implemented and if SESE faculty were willing to take on such roles, I would be even more supportive.

An initiative like this also brings into focus some of the problems associated with ASU's current structure for graduate programs. On one hand, we are told that the Graduate College, not any specific academic unit, "owns" all graduate degree programs. However, the proposal form for new degrees asks which unit is responsible for the proposed degree program. To me, the unit (or units) responsible for program design and maintenance should own the program. Moreover, as much as I like graduate programs that involve multiple units, I feel pressured by the senior administration to have a large number of graduate students in SESE graduate programs. If a SESE faculty member has a Ph.D. student in this program and SOLS is regarded as the exclusive "responsible unit", does that mean that my faculty member's advising efforts do not get credited to SESE when it comes time to "count" graduate students in a unit? And certainly a "non-responsible unit" should not be expected to provide "necessary resources" if no credit is forthcoming. Such issues should not cloud the evaluation of a meritorious program like the one proposed here, but I believe that – whatever CLAS or higher levels in the administration do with regard to this proposal – there should be some clarification of the implications of supporting these initiatives to the units involved before asking for their support.

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August 19, 2009

College of Liberal Arts Curriculum Committee
Attention: Jenny Smith

Dear Committee:

Our school is pleased to endorse the proposal for a PhD program in Evolutionary Biology. The program appropriately involves several School of Human Evolution & Social Change faculty who are deeply engaged in these issues. We would welcome the program's students in our graduate courses. Please contact me if you need any additional information.

Sincerely,

Alexandra Brewis
Professor & Associate Director