

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. The proposal template should be completed in full and submitted to the University Provost's Office [mailto:curriculumplanning@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.

College/School/Institute: New College of Interdisciplinary Arts and Sciences
Department/Division/School: School of Mathematical & Natural Sciences
Proposing Faculty Group (if applicable):
If this is an official joint degree program? No, this is not a joint degree program

If "Yes" List all the additional college(s)/school(s)/institute(s) that will be involved in offering the degree program and providing the necessary resources. Note: All units offering this program must have collaborated in the proposal development and completed the appropriate unit and college/school approvals.

Degree type: BA-Bachelor of Arts
 If other; provide degree type title and proposed abbreviation:
Name of degree program (major): Environmental Science
Are any concentrations to be established under this degree program? No, concentrations will not be established.
Is a program fee required? No, a program fee is not required.
What is the first catalog year available for students to select on the undergraduate application for this this program? 2016-17
Delivery method: On-campus only (ground courses and/or iCourses)

Note: Once students elect a campus or On-line option, students will not be able to move back and forth between the on-campus and the ASU Online options. Approval from the Office of the Provost and Philip Regier (Executive Vice Provost and Dean) is required to offer programs through ASU Online.

Campus/Locations: indicate all locations where this program will be offered.

Downtown Phoenix Polytechnic Tempe West Other: Lake Havasu City

Proposal Contact

Name: Becky Ball **Title:** Assistant Professor
Phone number: 602-543-2010 **Email:** becky.ball@asu.edu

DEAN APPROVAL(S)

This proposal has been approved by all necessary unit and College/School levels of review. I recommend implementation of the proposed organizational change.

College/School/Division Dean name: Marlene Tromp

Signature _____

Date: 8/21/2015

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

Signature _____

Date: / /20

Note: An electronic signature, an email from the dean or dean's designee, or a PDF of the signed signature page is acceptable.

1. Purpose and Nature of Program

Provide a brief program description. Include the distinctive features of the program that make it unique.

The BA in Environmental Science prepares students to pursue careers in environmental science, including but not limited to positions in government policy, private consulting firms, nongovernment organizations or academic research environments. The curriculum builds a strong foundation in the natural sciences to understand the biological and chemical functioning of our natural environment, with an additional emphasis on the social, political, and economic dimensions of environmental science. The program also focuses on communication, management, and planning skills that will prepare graduates for leadership careers in environmental science.

2. Student Learning Outcomes and Assessment Methods

A. Knowledge, competencies, and skills

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>)

Outcome 1: Be able to demonstrate knowledge in relevant areas of environmental science including pertinent topics in biology, chemistry, and ecology.

Outcome 2: Be able to demonstrate an understanding of policy and human decision making in planning for environmental projects.

B. Assessment

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>)

Outcome 1: This measure will be met if at least 70% of the students receive grades of C or better on the final exam in ENV 201 and the final projects in ENV 385 and LSC 322 (West) or BIO 320 (Lk Havasu).

Outcome 2: This measure will be met if at least 70% of the students receive grades of C or better on the final exam in IAS/PHI 407 or IAS/PHI 409.

3. Academic Curriculum and Requirements

A. Major Map.

Attach a copy of the “proposed” major map for this degree program and each concentration(s) to be offered. Instructions on how to create a “proposed major map” in BAMB can be found in the Build a Major Map Training Guide.

B. Summary of credit hours required for this program

Total credit hours must be 120 and include first year composition, general studies, core/required courses, program specific electives, and any additional requirements (e.g., concentration credits).

Requirements	Credit Hours
First Year Composition	6
ASU 101 (or Equivalent)	1
General Studies	12
Core/required courses	74
Program specific electives	27
Additional requirements	0
Other; please explain	0
Total	120

C. Core/Required Courses.

i. Total required and/or core course credit hours:

74

ii. List the name, prefix, and credit hours for each required/core course for this program

BIO 181 - General Biology I	4
BIO 182 - General Biology II	4
BIO 320 - Fundamentals of Ecology	3
CHM 113 - General Chemistry I	4
CHM 116 - General Chemistry II	4
CHM 231 - Elementary Organic Chemistry	3
CHM 235 - Elementary Organic Chemistry Laboratory	1
CHM 302 - Environmental Chemistry	3
ECN 212 - Microeconomic Principles	3
ENV 201 - Fundamentals of Environmental Science	3
ENV 345 - Spatial Analysis in the Environmental Sciences	3
ENV 385 - Environmental Impact Assessment	3
GLG 101 + GLG 103 - Introduction to Geology I (Physical) and Introduction to Geology I - Laboratory	3+1=4
OR	
GLG 108 - Water Planet	4
GPH 210 - Society and Environment	3
IAS/PHI 407 - Environmental Philosophy and Policy	3
IAS/PHI 409 - Eco-Community Ethics	3
LSC 322 - Fundamentals of Ecology Laboratory	1
LSC 347 - Fundamentals of Genetics	3
MAT 170 - Precalculus	3
OGL 240 - Introduction to Project Management	3
PHY 101 - Introduction to Physics	4
SOC 331 - Environmental Sociology	3
SOS 111 - Sustainable Cities	3
STP 226 - Elements of Statistics	3

D. Program Specific Electives.

i. Total required program elective credit hours:

27

ii. List the name, prefix, and credit hours for any program specific electives for this program:

Electives are listed in the major map in two categories. Students are required to take three Science electives and four Social Science & Humanities electives, plus an "L" course from either list.

Science Electives

BIO 331 - Animal Behavior	3
BIO 360 - Animal Physiology	3
BIO 370 - Vertebrate Zoology	4
BIO 385 - Comparative Invertebrate Zoology	4
BIO 410 - Techniques in Conservation Biology & Ecology	3
BIO 412 - Conservation in Practice	
BIO 422 - Ecosystem Ecology	3
BIO 426 - Limnology	3
BIO 474 - Herpetology	4
ENV 310 - Soil Science	4
PLB 300 - Plant Diversity & Evolution	4
PLB 308 - Plant Physiology	4

Social Science & Humanities Electives

ASB 272 - Environmental Justice	3
ASB 326 - Human Impacts on Ancient Environments	3

- ASB 375 - Humans and the Environment: What's the Connection? 3
- ABS 381 - Natural Resources Policy 3
- ABS 479 - Ecosystem Management and Planning 3
- COM 312 - Communication, Conflict, and Negotiation 3
- COM 430 - Leadership in Group Communication 3
- ECN 211 - Macroeconomic Principles 3
- ERM 428 - International Environmental Management 3
- HST 345 - Environmental History 3
- LSC/BIO 499 - Individualized Instruction 1-3
- LSC 484 - Internship 1-12
- OGL 200 - Introduction to Organizational Leadership 3
- OGL 300 - Theory and Practice in Leadership 3
- OGL 355 - Leading Organizational Innovation & Change 3
- POS 110 - Government and Politics 3
- POS 331 - Public Opinion 3
- POS 426 - Elements of Public Policy 3
- PUP 301 - Introduction to Urban Planning 3
- SOC 333 - Population 3
- SOS 230 - Professional Skills in Sustainability 1
- SOS 311 - Future Thinking and Strategies 3
- SOS 385 - Business & Sustainability I 3

E. Additional Program Requirements, if any:

List and describe any capstone experiences, milestone, and/or additional requirements.

Students have the option to complete a capstone experience via choosing Individualized Instruction (LSC 499 or BIO 499) or Internship (LSC 484) from their electives.

F. Concentrations

- I.** Are any concentrations to be established under this degree program? **No, concentrations will not be established.**
- II.** If yes, are concentrations required? No, concentrations will not be required.
- III.** List courses & additional requirements for the proposed concentration (s):

Concentration Name	Total credit hours	Core/Required Courses for Concentration (Prefix, # & Title)	Total Core credit hours	Program Specific Electives (include course name and prefix)	Total Elective credit hours	Additional Requirements (i.e. milestones, capstones)

4. New Course Development

A. Will a new course prefix (es) be required for this degree program? No

If yes, list prefix name(s) (i.e. ENG- English)

Note: A request for a New Prefix form must be completed for each new prefix required and submitted with this proposal: http://provost.asu.edu/files/shared/curriculum/Prefix_Request.doc.

B. New Courses Required for Proposed Degree Program.

List all new courses required for this program, including course prefix, number and course description.

None

Note: New course requests must be submitted electronically via Curriculum ChangeMaker and undergo all internal university review and approval steps including those at the unit, college, and university levels.

5. Program Need

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

According to the U.S. Department of Labor's Occupational Outlook Handbook (<http://www.bls.gov/oooh/life-physical-and-social-science/environmental-scientists-and-specialists.htm>), job opportunities for Environmental Scientists are expected to increase by 15% over the next 10 years, which is faster than the national average, due to increased public interest in environmental hazards and increasing human demands on the environment. Many students that are interested in environmental science have an equal interest in the natural sciences as well as social sciences that explore the human dimensions of environmental science. The New College of Interdisciplinary Arts and Sciences is the ideal place to build this cross-disciplinary degree, making it a logical follow-up to our existing Environmental Science BS. The target audience will be students interested in environmental policy, resource conservation, land management, environmental planning, "making a difference" in the environment, and students interested in entry level employment immediately following college. Both the West campus and Havasu location have a larger proportion of first generation college students who want to go to work in their field immediately after earning their BA.

6. 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.

Possible impacts on other programs may be that some students choose this major rather than one offered by one of the academic units listed below, but we believe this number will be relatively small because students often have other reasons for wanting to study and stay at campuses other than the West campus. Additional possible unit-specific impacts are highlighted below.

- College of Liberal Arts and Science (CLAS)

The School of Earth and Space Exploration offers a BA in Earth and Environmental Studies, which consists of a more earth-science/geology oriented curriculum. Our BA is instead focused on the natural sciences (biology and chemistry) with a larger social science and humanities component. [An impact statement from CLAS has been requested.]

- School of Sustainability

The School of Sustainability offers a BA in Sustainability, which focuses much more on systems analysis and the built environment, rather than on the natural sciences as will our BA in Environmental Science. It is possible that students may choose between the two programs, and we have tried to clearly define the different focus in the program description to allow students to make an informed decision. [An impact statement from SOS has been requested.]

7. Projected Enrollment

How many new students do you anticipate enrolling in this program each year for the next five years?

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)	25	50	100	175	250

8. 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.

None

9. Faculty & Staff

A. Current faculty

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

Faculty Member	Rank	Highest Degree	Specialization	Involvement
Dr. Becky Ball	Asst Professor	Ph.D.	Soil Ecology	Instruction for LSC 322, ENV 201 and 310
Dr. Connie Borrer	Professor	Ph.D.	Statistics	Instruction in STP 226
Dr. Jennifer Broatch	Asst Professor	Ph.D.	Statistics	Instruction in STP 226
Dr. Thomas Cahill	Assoc Professor	Ph.D.	Chemistry	Instruction in CHM 116, 327/328, and 302.
Dr. Lara Ferry	Assoc Professor	Ph.D.	Functional Morphology	Instruction in relevant BIO courses
Dr. Jennifer Hackney	Asst Professor	Ph.D.	Cell Biology	Instruction in BIO 353/354 and LSC 394
Dr. Chad Johnson	Assoc Professor	Ph.D.	Ecology	Instruction in BIO 320 and 331, LSC 322
Dr. Pamela Marshall	Assoc Professor	Ph.D.	Genetics	Instruction in LSC 347/348
Dr. Beth Polidoro	Asst Professor	Ph.D.	Environmental Chem	Instruction in CHM 113, 302
Dr. Todd Sandrin	Assoc Professor	Ph.D.	Microbiology	Instruction in relevant BIO courses
Dr. Susannah Sandrin	Asst Clinical Professor	Ph.D.	Soil Science	Instruction in ENV 310
Dr. Brian Sullivan	Professor	Ph.D.	Herpetology	Instruction in BIO 474 and 300/301
Dr. Ken Sweat	Sr Lecturer	Ph.D.	Plant Biology	Instruction in relevant BIO and PLB courses
Dr. Carl Wagner	Asst Professor	Ph.D.	Organic Chem	Instruction in CHM 233/234 and 237/238

Lake Havasu location Current Faculty

Faculty Member	Rank	Highest Deg	Specialization	Involvement
Dr. Kerrie Anne Loyd	Lecturer	Ph.D.	Ecology	Instruction: BIO182, 320, 370, LSC 322, electives
Dr. Doyle Wilson	Sr Lecturer	Ph.D.	Geology	Instruction in ENV 201, GLG 108, ENV 345
Dr. Daryn Stover	Lecturer	Ph.D.	Molecular Bio	Instruction in BIO181, 347, 353, 443
Dr. Sharon Harvey	Sr Lecturer	Ph.D.	Envir Ethics/Policy	Instruction in IAS 407, 409, BIO324, SOS 111, ENV 385
Dr. Ryan Nangreave	Lecturer	Ph.D.	Gen & Org. Chem	Instruction in CHM113, 116, 231, 233, 237, 302,303
Dr. David Young	Director	Ph.D.	Botany, Plant Bio	Instruction in PLB 300 and PLB electives
Dr. Scott McIntyre	St Lecturer	Ph.D.	Statistics, Psych	Instruction in STP 226, SB electives
Dr. Raymon Van Der Riet	Assistant Director	J.D.	Business, Org Leadership	Instruction in OGL electives

B. New Faculty:

Describe the new faculty hiring needed during the next three years to sustain the program. List the anticipated hiring schedule and financial sources for supporting the addition of these faculty members.

The degree program can be launched with existing Faculty and Faculty Associate support. As enrollment grows, the Dean of New College and Director of the Lake Havasu location will discuss with the Provost hiring plans that support continued growth of the program.

C. 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.

The program will be administered by the School of Mathematical and Natural Sciences in the New College of Interdisciplinary Arts and Sciences. Admissions will be handled by the usual ASU admissions procedures; there will be no special admission requirements for this program. Advising for this program will be provided by academic advisors in our School. These advisers currently serve the five majors in our School: Applied Computing, Applied Mathematics, Forensics, Biology (formerly Life Sciences), and Statistics. Teaching schedules and course offerings by semester are determined by the School Director in consultation with the Associate Director, faculty, and advisers. Technology support will be provided by UTO.

10. Resources (necessary to launch and sustain the program)

A. Required resources:

Describe any new resources required for this program's success, such as new support staff, new facilities, new library resources, new technology resources, etc.

No new facilities, library, technology, or support resources will be needed.

B. Resource acquisition:

Explain how the resources to support this program will be obtained.

APPENDIX
OPERATIONAL INFORMATION FOR UNDERGRADUATE PROGRAMS
(This information is used to populate the Degree Search/catalog website.)

1. Program Name (Major): Environmental Science**2. Program Description (150 words maximum)**

The BA in environmental science prepares students to pursue careers in environmental science. The curriculum builds a strong foundation in the natural sciences to understand the biological and chemical functioning of our natural environment, with an additional emphasis on the social, political and economic dimensions of environmental science. The program also focuses on communication, management and planning skills that will prepare graduates for leadership careers in environmental science.

3. Contact and Support Information

Building Name, code and room number: (<i>Search ASU map</i>)	FAB N115
Program office telephone number: (<i>i.e. 480/965-2100</i>)	602/543-6050
Program Email Address:	mns@asu.edu
Program Website Address:	https://newcollege.asu.edu/mathematical-natural-sciences-degree-programs

4. Delivery/Campus Information Delivery: On-campus only (ground courses and/or iCourses)

Note: Once students elect a campus or On-line option, students will not be able to move back and forth between the on-campus and the ASU Online options. Approval from the Office of the Provost and Philip Regier (Executive Vice Provost and Dean) is required to offer programs through ASU Online.

5. Campus/Locations: indicate all locations where this program will be offered.

Downtown Phoenix Polytechnic Tempe West Other: Lake Havasu City

6. Additional Program Description Information

A. Additional program fee required for this program? No
B. Does this program have a second language requirement? No

7. Career Opportunities & Concentrations

Provide a brief description of career opportunities available for this degree program. If program will have concentrations, provide a brief description for each concentration. (150 words maximum)

Career opportunities for graduates of this program include employment in environmental policy, management or leadership positions in federal and state agencies, local municipality planning offices, private consulting firms, and nongovernmental and nonprofit organizations. Graduates of the program will also be well-qualified to pursue graduate studies in relevant areas of the natural sciences.

8. Additional Admission Requirements

If applicable list any admission requirements (freshman and/or transfer) that are higher than and/or in addition to the university minimum undergraduate admission requirements.)

None

9. Keywords

List all keywords used to search for this program. Keywords should be specific to the proposed program.
Environmental science, ecology, environment, conservation

10. Advising Committee Code

List the existing advising committee code to be associated with this degree.
UGNC02 (West) or UGNC01 (Lake Havasu)

Note: If a new advising committee needs to be created, please complete the following form:
[Proposal to create an undergraduate advising committee](#)

11. First Required Math Course

List the first math course required in the major map.
MAT 210: Brief Calculus or MAT 170: Precalculus

12. WUE Eligible:

Has a request been submitted to the Provost by the Dean to consider this degree program as eligible for WUE?
Yes

Note: No action will be taken during the implementation process with regards to WUE until approval is received from the Provost.

13. Math Intensity:

a. List the highest math course required on the major map. (This will not appear on Degree Search.)
MAT 170: Precalculus

b. What is the math intensity as indicated by the highest math required on the major map? Math intensity categorization can be found here: <https://catalog.asu.edu/mathintensity>

Moderate

14. CIP codes

Identify CIP codes that should be displayed on Degree Search. CIP codes can be found at:
<http://www.onetonline.org/crosswalk/CIP/>.

19-2041.00	11-9121.00
19-2041.02	11-9121.02
22.0207	19-1013.00
19-1031.02	19-1031.01
25-1053.00	19-1023.00

Are any specific career codes (SOC/ONET codes) to be omitted from the CIP codes selected above? (i.e. “Omit 25-10312.00 Engineering Teachers, Postsecondary from CIP code 14.0501 Bioengineering and Biomedical Engineering.”)

15. Area(s) of Interest

A. Select **one (1)** primary area of interest from the list below that applies to this program.

- | | |
|--|--|
| <input type="checkbox"/> Architecture & Construction | <input type="checkbox"/> Humanities |
| <input type="checkbox"/> Arts | <input type="checkbox"/> Interdisciplinary Studies |
| <input type="checkbox"/> Business | <input type="checkbox"/> Law & Justice |
| <input type="checkbox"/> Communications & Media | <input type="checkbox"/> Computing and Mathematics |
| <input type="checkbox"/> Education & Teaching | <input type="checkbox"/> Psychology |
| <input type="checkbox"/> Engineering & Technology | <input type="checkbox"/> STEM |
| <input checked="" type="checkbox"/> Environmental Issues & Physical Sciences | <input type="checkbox"/> Science |
| <input type="checkbox"/> Exploratory | <input type="checkbox"/> Social and Behavioral Sciences |
| <input type="checkbox"/> Health & Wellness | <input type="checkbox"/> Sustainability |

B. Select **one (1)** secondary area of interest from the list below that applies to this program.

- | | |
|---|--|
| <input type="checkbox"/> Architecture & Construction | <input type="checkbox"/> Humanities |
| <input type="checkbox"/> Arts | <input type="checkbox"/> Interdisciplinary Studies |
| <input type="checkbox"/> Business | <input type="checkbox"/> Law & Justice |
| <input type="checkbox"/> Communications & Media | <input type="checkbox"/> Computing and Mathematics |
| <input type="checkbox"/> Education & Teaching | <input type="checkbox"/> Psychology |
| <input type="checkbox"/> Engineering & Technology | <input type="checkbox"/> STEM |
| <input type="checkbox"/> Environmental Issues & Physical Sciences | <input checked="" type="checkbox"/> Science |

- [Exploratory](#)
- Health & Wellness

- Social and Behavioral Sciences
- Sustainability

The following fields are to be completed by the Office of the Executive Vice President and Provost of the University.

CIP Code: _____

Plan Code:



August 21, 2015

To: Marlene Tromp, Dean
New College of Interdisciplinary Arts and Sciences

From: Lara Ferry, Interim Director and Professor
School of Mathematical and Natural Sciences

A handwritten signature in black ink, appearing to read 'Lara Ferry'.

Re: New Environmental Science BA Degree

Attached please find the Proposal to establish a new BA degree in Environmental Science to be offered jointly at the West Campus and at Lake Havasu. This proposal was prepared by a faculty committee consisting of Becky Ball and Beth Polidoro from MNS, and Kerry Ann Lloyd from Lake Havasu. It was approved by the MNS Curriculum Committee and the entire MNS faculty.

This is different from the Environmental Science BS recently launched in that it draws more heavily from the social sciences within New College, and thus represents another example of the interdisciplinary approach within the College. We are excited about the new opportunities this will provide for students.

We appreciate your support of this proposal and ask that you forward it for further approvals.

From: Paul LePore <Paul.Lepore@asu.edu>
Date: Wednesday, October 28, 2015 at 12:55 PM
To: Marlene Tromp <marlene.tromp@asu.edu>
Subject: RE: following up on ENVS

Hi Marlene,

Pat, Ferran, and I spoke today. The college is supportive of the new degree and SESE lodged its concerns and now accepts our take (provided we address any negative enrollment issues that might arise – which I think we will be able to do without problem). The college isn't comfortable, however, hindering or intruding on the faculty governance processes at work here – certainly we are hopeful that even if concerns are raised at the upcoming meeting that the proposal will go through.

PL

PAUL C. LEPORE, Ph.D.
Associate Dean
College of Liberal Arts and Sciences
Foundation Building, Suite 110
Arizona State University | P.O. Box 876605 | Tempe, Arizona 85287-6605
480.965.6506 | Fax: 480.965.2110 | e-mail: paul.lepore@asu.edu

ASU College of Liberal Arts and Sciences — *Transforming learning, discovery and lives*

From: Marlene Tromp
Sent: Wednesday, October 28, 2015 7:19 AM
To: Paul LePore
Subject: Fwd: following up on ENVS

Dear Paul,
I've been corresponding with Fred and Pat this morning. Pat has no objection, and Fred is concerned this will still under debate. He suggested you might be able to help.
What are your thoughts?
Marlene

Please excuse my typos. Sent from my iPhone.

From: Christopher Boone
Sent: Friday, November 06, 2015 3:44 PM
To: Marlene Tromp
Cc: Caroline Harrison
Subject: Impact Statement

I am writing to support the proposed BA in Environmental Science to be offered at West Campus. I see this as an important opportunity to expand the educational offerings for students interested in environmental studies and careers. The sustainability degrees offered in our school are distinct from the proposed Environmental Science degree and I do not anticipate any adverse affect on our enrollments. To the contrary, I expect this program to increase interest in sustainability courses in our school and in other colleges.

Christopher Boone
Professor and Dean
School of Sustainability
Arizona State University
<http://schoolofsustainability.asu.edu/>

From: Todd Sandrin <Todd.Sandrin@asu.edu>
Date: September 21, 2015 at 9:50:36 AM MST
To: Lara Ferry <lferry@asu.edu>, Stephen Wirkus <Stephen.Wirkus@asu.edu>
Cc: Stacey Kimbell <kimbell@asu.edu>
Subject: FW: Environmental Science BA in New College

Here's the email exchange I reference in my last email regarding the Env. Sci. BA.

Thanks,

Todd

From: Todd Sandrin
Sent: Friday, July 24, 2015 10:50 AM
To: 'lkinst@asu.edu' <lkinst@asu.edu>
Cc: Becky Ball <Becky.Ball@asu.edu>; Paul LePore <Paul.Lepore@asu.edu>
Subject: Re: Environmental Science BA in New College

Dear Lindy,

Thanks so much for taking time to share your perspectives and concerns regarding the new BA in Environmental Science New College plans to launch. I understand your concerns, and I hope I can allay some of them.

We do not believe the new BA we propose will create any undue burden on GLG numbered courses. GLG 101 and 103 are routinely offered here through New College and will soon be offered at the Lake Havasu location. GLG 108 is already regularly offered at the Lake Havasu location. Furthermore, I understand that Lake Havasu is hiring a new faculty member with expertise in geology who can teach all of these courses (GLG 101/103 and 108).

As you may be aware, New College worked with the Lake Havasu location recently to launch a BS in Environmental Science. In the process of building that degree, concerns similar to yours regarding overlap of this degree with others in SESE and Sustainability were raised. It was ultimately determined that the Environmental Science degree was unique enough to recruit a different population and increase the general population of students.

With regard to where we are in the planning process, ABOR has approved inclusion of this degree on our academic plan and we are moving forward with implementation. Of course, though, we want to be sure to be aware of and minimize potential impacts on other degree programs at ASU.

I'd be delighted to converse with you further about this if you wish.

Thanks,

Todd

----- Forwarded Message -----

Subject:Re: Environmental Science BA in New College

Date: Mon, 6 Jul 2015 19:12:15 -0400

From: Lindy Elkins-Tanton <lelkinst@asu.edu>

To: Becky Ball <Becky.Ball@asu.edu>

CC: Lindy Elkins-Tanton <lelkinst@asu.edu>, Paul.Lepore@asu.edu

Dear Becky and Paul,

First, I apologize for taking so long to reply. I am working on the ability to effectively triage email, but this year has really stretched my abilities!

I have looked over the material you sent on the proposed new BA in Earth and Environmental Studies, and have discussed it with our Associate Directors. We have a number of concerns and are not convinced that this degree will enlarge the pool of students.

The proposed BA in Environmental Science in the New College to be offered at the West Campus and at the Lake Havasu City campuses does seem to be in direct competition with the existing BA degree in Earth and Environmental Studies offered by the School of Earth and Space Exploration on Tempe Campus. We suspect that if approved this new degree will take students away from our existing degree and could place undue burden on the GLG numbered courses (101/103 and 108) that are required for the proposed New College major. Based on our review of the proposed major, it is not clear how it will recruit a different population of students or increase the general population of students interested in environmental sciences.

The SESE BA degree requires similar chemistry courses and approves similar introductory biology courses (BIO100 or BIO182) as the proposed New College degree. The two degrees also allow a very similar list of approved upper division elective courses. The SESE degree is not simply geology focused as you state; it was designed to allow student to also explore interests in ecology, sustainability, policy, science communication, science education, climate, and geography. The two programs will prepare students for the same sorts of careers.

Perhaps you could let me know where you are in the planning process, and we can talk further as needed.

best —

Lindy

> On Apr 28, 2015, at 11:45 AM, Becky Ball <Becky.Ball@asu.edu> wrote:

>> Dear Dr. Elkins-Tanton and Dr. LePore,

> I'm faculty at the West Campus in the School of Mathematical & Natural Sciences. Following the Environmental Science BS we designed last year, we are designing a new Environmental Science BA degree. We have identified that, within CLAS, SESE's BA in Earth and Environmental Studies might be impacted by this new degree.

> Our degree will differ in several key ways from these degrees, lessening the overlap. Our degree incorporates a fairly equal mix of biology, chemistry, and ecology in the natural sciences, as opposed to being geology-focused like SESE's degree.

> For the proposal document, we are required to include a statement of support from the impacted programs. Would you be willing to send me such a letter? I am happy to answer any questions you might have.

> Thanks for your time,

> Becky

> Becky A. Ball, Ph.D.

> Assistant Professor, School of Mathematical and Natural Sciences

> Senior Sustainability Scientist, Global Institute of Sustainability

> Barrett Honors Faculty

> Arizona State University

>

> <EnvSci_BA_Proposal_Apr2015.pdf><ENV BA major map April2015.pdf>

Lindy T. Elkins-Tanton, Director

School of Earth and Space Exploration

Arizona State University

ISTB4, Room 795

781 Terrace Road

Tempe AZ 85287-6004

480-727-2451

<http://sese.asu.edu/people/lindy-elkins-tanton>

siberia.mit.edu

Stacey Kimbell

From: Becky Ball <becky.ball@asu.edu>
Sent: Friday, August 21, 2015 1:18 PM
To: Stacey Kimbell; Lara Ferry; Todd Sandrin
Subject: Fwd: Environmental Science BA
Attachments: EnvSci_BA_Proposal_Apr2015.pdf; ENV BA major map April2015.pdf

Hi Stacey,

Below is the email that I had sent to Chris Boone with SOS back in April. I did not hear back from him. As per Lara's suggestion, this can be included as the impact statement from SOS (unless the provost's office has us ask again).

----- Forwarded Message -----

Subject:Environmental Science BA
Date:Mon, 27 Apr 2015 18:07:21 -0700
From:Becky Ball <becky.ball@asu.edu>
To:Christopher Boone <Christopher.G.Boone@asu.edu>

Hi Chris,

As a follow-up to the Environmental Science BS, the committee I chaired has been asked to develop an Environmental Science BA for New College on the West Campus. Our proposal for that degree is attached.

I'm writing to request an impact statement from SOS, given that an Environmental Science BA might impact the Sustainability BA. Could you please prepare a statement with the potential impacts on the SOS BA? I'm happy to bring to the committee any feedback you might have.

We can talk in person about it if you'd like. I'm in my GIOS office on Wednesday morning this week. I have a meeting 9:30-10ish, but can be available any other time that morning before 11:30 when I leave to pick up a seminar speaker from the airport.

Thanks,
Becky

--

Becky A. Ball, Ph.D.
Assistant Professor, School of Mathematical and Natural Sciences
Senior Sustainability Scientist, Global Institute of Sustainability
Barrett Honors Faculty
Arizona State University

Stacey Kimbell

From: Todd Sandrin
Sent: Monday, June 15, 2015 11:38 AM
To: Roger Berger; Lara Ferry; Stacey Kimbell
Subject: RE: Request for Impact Statement: Environmental Science BA

Follow Up Flag: Follow Up
Due By: Monday, June 15, 2015 11:44 AM
Flag Status: Flagged

Just an FYI: I never received a response to my request for an impact statement.

Todd

From: Todd Sandrin
Sent: Wednesday, April 29, 2015 3:12 PM
To: Bertram Jacobs; Michael Angilletta
Cc: Roger Berger; Lara Ferry; Stacey Kimbell
Subject: Request for Impact Statement: Environmental Science BA

Dear Drs. Jacobs and Angilletta,

Following the Environmental Science BS New College designed last year, we are designing a new Environmental Science **BA** degree.

As you are likely aware, we are required to include impact statements from programs that may be impacted by this degree. I attach the major map and proposal for this degree.

Might you be able to provide a brief impact statement **by May 22**?

Of course, I am happy to answer any questions you might have.

Best regards,
Todd Sandrin

Todd R. Sandrin, Ph.D.

Associate Professor – School of Mathematical and Natural Sciences

Associate Dean – New College | *Director* - NCUIRE

New College | **Arizona State University**

(602) 543-6934 | Todd.Sandrin@asu.edu | Lab - <http://sandrin-lab.asu.edu>

Stacey Kimbell

Subject: FW: requesting WUE status for new MNS program

From: Robert Page <Robert.Page@asu.edu>

Date: Wednesday, July 30, 2014 at 2:05 AM

To: Marlene Tromp <marlene.tromp@asu.edu>

Cc: Frederick Corey <FREDERICK.COREY@asu.edu>, Stacey Kimbell <kimbell@asu.edu>

Subject: Re: requesting WUE status for new MNS program

I am fine with that.

Rob

Robert E. Page, Jr.
University Provost
Arizona State University

On Jul 29, 2014, at 1:15 PM, "Marlene Tromp" <Marlene.Tromp@asu.edu> wrote:

Dear Provost Page,

The School of Mathematical and Natural Sciences is currently developing the BA in Environmental Studies/BS in Environmental Science for a proposed Fall 2015 launch. I would like to formally request WUE eligibility for these two programs. I believe that WUE eligibility is important to the success of this program, and it will serve to bring additional out-of-state students to the West campus.

If I may supply any additional information as you consider this request, please let me know.

Sincerely,
Marlene

--

Dr. Marlene Tromp, Dean and Vice Provost
New College of Interdisciplinary Arts and Sciences
4701 W. Thunderbird Rd., Glendale, AZ 85306-4908
P.O. Box 37100, M/C 1251, Phoenix AZ 85069-7100
Arizona State University
Office: 602-543-7000 Fax: 602-543-7070
marlene.tromp@asu.edu
newcollege.asu.edu

Confidentiality Notice: This e-mail message, including attachments, is for the sole use of the intended recipients and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message.



2016 - 2017 Major Map

Environmental Science, (Proposed)

HJKTPCZ

Hide Course List(s)/Track Group(s)

Term 1	0 - 15 Credit Hours	Critical course signified by	Hours	Minimum Grade	Notes
BIO 181: General Biology I (SQ)			4	C	<ul style="list-style-type: none"> • An SAT, ACT, Accuplacer, IELTS or TOEFL score determines placement into first-year composition courses. • ASU Mathematics Placement Test score determines placement into mathematics courses. • ASU 101 or college-specific equivalent First-Year Seminar required of all freshman students. NEW 101 satisfies this requirement. • IAS 300 is required in place of NEW 101 for transfer students.
ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition			3	C	
CHM 113: General Chemistry I (SQ)			4	C	
MAT 170: Precalculus (MA)			3	C	
NEW 101: The ASU New College Experience			1		
Term hours subtotal:			15		

Term 2	16 - 29 Credit Hours	Critical course signified by	Hours	Minimum Grade	Notes
BIO 182: General Biology II (SG)			4	C	
CHM 116: General Chemistry II (SQ)			4	C	
ENG 101 or ENG 102: First-Year Composition OR ENG 105: Advanced First-Year Composition OR ENG 107 or ENG 108: First-Year Composition			3	C	
STP 226: Elements of Statistics (CS)			3	C	
Complete ENG 101 OR ENG 105 OR ENG 107 course(s).					
Term hours subtotal:			14		

Term 3	30 - 43 Credit Hours	Critical course signified by	Hours	Minimum Grade	Notes
ENV 201: Fundamentals of Environmental Science			3	C	
PHY 101: Introduction to Physics (SQ)			4	C	
CHM 231: Elementary Organic Chemistry (SQ) AND CHM 235: Elementary Organic Chemistry Laboratory (SQ)			4	C	
OGL 240: Introduction to Project Management			3	C	
Complete First-Year Composition requirement.					
Complete Mathematics (MA) requirement.					
Term hours subtotal:			14		

Term 4	44 - 59 Credit Hours	Critical course signified by	Hours	Minimum Grade	Notes
GLG 101: Introduction to Geology I (Physical) (SQ) AND GLG 103: Introduction to Geology I-Laboratory (SQ) OR GLG 108: Water Planet (SQ)			4	C	
ECN 212: Microeconomic Principles (SB)			3	C	
GPH 210: Society and Environment (G)			3	C	
SOS 111: Sustainable Cities ((HU or SB) & G)			3	C	

Social Science and Humanities Elective	3	C
Term hours subtotal:	16	

★ Term 5	60 - 74 Credit Hours	Necessary course signified by	Hours	Minimum Grade	Notes
★ CHM 302: Environmental Chemistry	3		3	C	• IAS 300 (3 credit hours) is required for all transfer students in place of NEW 101.
LSC 347: Fundamentals of Genetics	3		3	C	
IAS 407: Environmental Philosophy and Policy (L or HU) or PHI 407: Environmental Philosophy and Policy (L or HU)	3		3	C	
Social Science and Humanities Elective	3		3	C	
Upper Division Literacy and Critical Inquiry (L) OR IAS 300: Adult Career Development (L or SB)	3		3	C	
Term hours subtotal:	15				

★ Term 6	75 - 88 Credit Hours	Necessary course signified by	Hours	Minimum Grade	Notes
★ BIO 320: Fundamentals of Ecology AND LSC 322: Fundamentals of Ecology Laboratory	4		4	C	• The "L" course should come from the list of Science or Social Science and Humanities Electives.
SOC 331: Environmental Sociology (SB & G)	3		3	C	
Science Elective AND Literacy and Critical Inquiry (L) OR Social Science and Humanities Elective AND Literacy and Critical Inquiry (L)	3		3	C	
Upper Division Science Elective	4		4	C	
Term hours subtotal:	14				

★ Term 7	89 - 104 Credit Hours	Necessary course signified by	Hours	Minimum Grade	Notes
★ ENV 345: Spatial Analysis in the Environmental Sciences	3		3	C	
Social Science and Humanities Elective	3		3	C	
Upper Division Science Elective	4		4	C	
Cultural Diversity in the U.S. (C)	3		3	C	
Historical Awareness (H)	3		3	C	
Term hours subtotal:	16				

★ Term 8	105 - 120 Credit Hours	Necessary course signified by	Hours	Minimum Grade	Notes
★ ENV 385: Environmental Impact Assessment	3		3	C	• Completion of the Upper Division Cultural Diversity in the U.S. (C) or Upper Division Global Awareness (G) AND SOC 331 in Term 6 satisfies the New College Language and Cultures requirement.
IAS 409: Eco-Community Ethics (HU) or PHI 409: Eco-Community Ethics (HU)	3		3	C	
Upper Division Cultural Diversity in the U.S. (C) OR Upper Division Global Awareness (G)	3		3	C	
Upper Division Science Elective	4		4	C	
Upper Division Social Science and Humanities Elective	3		3	C	
Term hours subtotal:	16				

Science Electives

BIO 331: Animal Behavior

BIO 360: Animal Physiology

BIO 370: Vertebrate Zoology

BIO 385: Comparative Invertebrate Zoology

BIO 410: Techniques in Conservation Biology and Ecology (L)

Social Science and Humanities Electives

ABS 381: Natural Resources Policy

ABS 479: Ecosystem Management and Planning (L)

ASB 272: Environmental Justice (SB)

ASB 326: Human Impacts on Ancient Environments (SB & H)

ASB 375: Humans and the

[Hide Course List\(s\)/Track Group\(s\)](#)

BIO 422: Ecosystem Ecology	Environment: What's the Connection? (L or SB) & G)
BIO 426: Limnology (L)	BIO 499: Individualized Instruction
BIO 474: Herpetology	COM 312: Communication, Conflict, and Negotiation
ENV 310: Soil Science	COM 430: Leadership in Group Communication
PLB 300: Plant Diversity and Evolution (L or SG)	ECN 211: Macroeconomic Principles (SB)
PLB 308: Plant Physiology	ERM 428: International Environmental Management (G)
	HST 345: Environmental History (L)
	LSC 484: Internship
	LSC 499: Individualized Instruction
	OGL 200: Introduction to Organizational Leadership (SB)
	OGL 300: Theory and Practice of Leadership
	OGL 355: Leading Organizational Innovation and Change (L)
	POS 110: Government and Politics (SB)
	POS 331: Public Opinion (SB)
	POS 426: Elements of Public Policy (SB)
	PUP 301: Introduction to Urban Planning (L)
	SOC 333: Population (SB & G)
	SOS 230: Professional skills in Sustainability
	SOS 311: Future Thinking and Strategies
	SOS 385: Business & Sustainability I

Total Hours: 120

Upper Division Hours: 45 minimum

Major GPA: 2.00 minimum

Cumulative GPA: 2.00 minimum

Total hrs at ASU: 30 minimum

Hrs Resident Credit for

Academic Recognition: 56 minimum

Total Community College Hrs: 64 maximum

Total College Residency Hrs: 12 minimum

General University Requirements Legend

General Studies Core Requirements:

- Literacy and Critical Inquiry (L)
- Mathematical Studies (MA)
- Computer/Statistics/Quantitative Applications (CS)
- Humanities, Arts and Design (HU)
- Social-Behavioral Sciences (SB)
- Natural Science - Quantitative (SQ)
- Natural Science - General (SG)

General Studies Awareness Requirements:

- Cultural Diversity in the U.S. (C)
- Global Awareness (G)
- Historical Awareness (H)

First-Year Composition

General Studies designations listed on the major map are current for the 2016 - 2017 academic year.

