

The completed and signed proposal should be submitted by the dean's office to curriculumplanning@asu.edu. Before academic units can advertise undergraduate certificates or include them in their offerings as described in the university catalogs, they must be recommended for approval by CAPC, University Senate (two readings), and be approved by the Office of the University Provost.

Definition and minimum requirements:

An undergraduate certificate is a programmatic or linked series of courses from a single field or one that crosses disciplinary boundaries and may be freestanding or affiliated with a degree program. The certificate provides a structured and focused set of courses that can be used to enhance a student's baccalaureate experience or professional development.

Listed below are the minimum requirements for approval. Individual undergraduate certificates may have additional requirements.

- Requires a minimum of 15 credit hours of which at least 12 credit hours must be upper division
- Requires a minimum grade of "C" or better for all upper-division courses
- Consists of courses that must directly relate in whole or large part to the purpose of the certificate. Example: Geographic area certificates must include only courses specific to the title of the certificate, other than a non-English language
- Is cross disciplinary; or,
 - Certified by a professional or accredited organization/governmental agency; or,
 - Clearly leads to advanced specialization in a field; or,
 - Is granted to a program that does not currently have a major

College/School: School of Sustainability
Department/Division/School: Sustainability
Proposed certificate name: Biomimicry
Requested effective date: Fall 2019
Initial delivery method: Campus immersion only (ground and iCourses)

Once students elect a campus or digital option, they will not be able to move between the modalities. Approval from the Office of the University Provost and Philip Regier (Executive Vice Provost and Dean) is required to offer programs through ASU Online. Approval begins by submitting the *Request for Digital Immersion Consideration* form in [Curriculum ChangeMaker](#). An EdPlus letter of support must be included with this proposal to demonstrate preliminary approval for digital immersion. Contact EdPlus at edplusprogrammanagement@asu.edu for additional information.

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

Downtown Phoenix Polytechnic Tempe West Other: _____

PROPOSAL CONTACT

Name: Caroline J Harrison **Title:** Curricular and Academic Programs
Phone number: 480-965-8645 **Email:** caroline.harrison@asu.edu

DEAN APPROVAL(S)

This proposal has been approved by all necessary unit and college/school levels of review and the college/school(s) has the resources to support the requested changes. I recommend implementation of the proposed organizational change.

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

The second signature is only required if multiple colleges are involved.

College/School/Division Dean name: Christopher Boone

Signature: 
1B3950E266FE4F9...

Date: / /20 February 20, 2019

College/School/Division Dean name:

Signature:

Date: / /20

SECTION A - Overview**1. Provide a brief description of the new certificate.**

Biomimicry is an emerging discipline that seeks to emulate life's strategies for human design with a particular emphasis on sustainability. The biomimicry undergraduate certificate is designed to address the growing interest in biomimicry knowledge and training, and will be attractive to students across a wide variety of disciplines at Arizona State University. Students who complete the certificate will be enabled to integrate biomimicry principles and tools into their prospective career, develop a deeper understanding of nature and sustainability, and serve as leaders in the emerging network of biomimicry researchers and practitioners. The biomimicry certificate will serve as a bridge between disciplines, integrating nature-based methodology into currently established disciplines at ASU.

The 18-credit undergraduate biomimicry certificate is an interdisciplinary opportunity for students with a variety of backgrounds, and available in conjunction with any major. This program will be attractive to students from many different majors, and is entirely unique with no overlap with currently offered programs at ASU.

2. This proposed certificate: (check one)

- is cross disciplinary; or
- is certified by a professional or accredited organization/governmental agency; or,
- clearly leads to advanced specialization in a field; or,
- is granted to a program that does not currently have a major

3. Why should this be a certificate rather than a concentration or a minor?

The structure of the undergraduate biomimicry certificate allows students from a variety of disciplines to gain a specialization that complements their current degree. Only a certificate offers a path to open biomimicry to any major. Currently, there is only a graduate-level online biomimicry program offered at ASU. The undergraduate biomimicry certificate will expand the reach to ground-based undergraduates, where there is a recognized and growing interest.

4. Affiliation

If the certificate program is affiliated with a degree program, include a brief statement of how it will complement the program. If it is not affiliated with a degree program, incorporate a statement as to how it will provide an opportunity for a student to gain knowledge or skills not already available at ASU.

This certificate will be offered by the School of Sustainability, which is a transdisciplinary unit that offers courses related to sustainability. This certificate will allow students in any major to supplement their studies with a focus on biomimicry. This will be accomplished by bringing together existing courses in a variety of departments, specifically designed for students with a range of backgrounds, making the topic of biomimicry more accessible to students in any field including humanities and social sciences. This certificate will be offered by the School of Sustainability (SoS) supported by staff at The Biomimicry Center. Foundational coursework will be taught by the School of Sustainability and The Biomimicry Center instructors/faculty, while the discipline specific courses will be taught by faculty in their respective schools, many of whom who have received complementary training in biomimicry by The Biomimicry Center.

5. Demand

Explain the need for the new certificate (e.g., market demand, interdisciplinary considerations).

This certificate will provide all students access to a more comprehensive education in biomimicry not offered anywhere at ASU, let alone at any university in the country. Arizona State University has been on the forefront of integrating biomimicry into higher education since launching the graduate Master of Science in Biomimicry in fall 2015, and now has an opportunity to expand this innovative leadership to the undergraduate market. It is anticipated that the existence of an undergraduate certificate offered solely at ASU, (with no biomimicry undergraduate degree offered anywhere in the world) will increase enrollment in other degrees with students choosing a discipline and complementing that with biomimicry.

6. Projected enrollment

What are enrollment projections for the first three years?

3-YEAR PROJECTED ANNUAL ENROLLMENT			
	1st YEAR	2nd YEAR <i>Yr 1 continuing + new entering</i>	3rd YEAR <i>Yr 1 & 2 continuing + new entering</i>
Number of Students (Headcount)	25	75	150

SECTION B - Support and Impact

7. Faculty governance

Attach a supporting letter from the chair of the academic unit verifying that the proposed certificate has received faculty approval through appropriate governance procedures in the unit and that the unit has the resources to support the certificate as presented in the proposal, without impacting core program resources.

8. Related programs

Identify related ASU programs and outline how the new certificate will complement these existing ASU programs. *Statements of support from potentially affected academic unit administrators must be included with this proposal.*

There are currently no related programs offered at ASU, with the exception of the online MS and graduate certificate in biomimicry offered through the School of Life Sciences. Although ASU offers undergraduate and graduate one-off courses related to biomimicry in several departments, the biomimicry certificate will deepen the understanding of biomimicry for all disciplines beyond a single course, while opening access to the topic in those disciplines without any coursework.

9. Letter(s) of support for courses

Provide a supporting letter from each college/school dean from which individual courses are taken.

SECTION C - Academic Curriculum and Requirements

10. Knowledge, competencies, and skills

List the knowledge, competencies, and skills (learning outcomes) students should have when they complete this proposed certificate. Examples of program learning outcomes can be found at <https://uocee.asu.edu/assessment>. While learning outcomes are needed, the measures and performance criteria are not needed for certificates.

Students who complete the undergraduate biomimicry certificate will have the ability to work toward innovative and sustainable solutions within their sphere, drawing upon time-tested sustainable solutions of the last 3.8 billion years.

[Note: A sphere references the specific discipline or area of interest a student may have and to which they wish to apply biomimicry].

- Integrate biomimicry thinking into any sphere-specific opportunity resulting in biomimetic outcomes
- Apply Life's Principles to specific needs within one's sphere
- Facilitate the integration of biology into design within one's sphere using biomimicry thinking
- Guide processes in one's sphere towards sustainability from a biomimetic perspective
- Interpret observations in nature with a functional lens for design applications
- Abstract design principles from biological observations for application to one's sphere

11. Enrollment criteria

Describe the procedures and any qualifications for enrollment in the proposed certificate. Please note if they are identical to the admission criteria for the existing major and degree program under which this certificate will be established.

Any student in good standing with at least a 3.00 GPA, plus a statement of interest to ensure expectations align with program.

12. Program Map

Attach a copy of the “proposed” map for this certificate program.

See the [Build a Major Map Training Guide](#) for instructions on how to create a “proposed certificate map” in [BAMM](#).

13. Curricular structure

Provide the curricular structure for this certificate by listing the required courses in alphanumeric order.

REQUIRED COURSES				
Prefix	Number	Title	New Course?	Credit Hours
SOS	110	Sustainable World	No	3
BMY/BIO	230	How Nature Works	Yes	3
BMY	302	Principles of Life	Yes	3
BMY	304	The Practice of Biomimicry	Yes	3
<i>Section sub-total:</i>				12
ELECTIVE COURSES				
Prefix	Number	Title	New Course?	Credit Hours
		Upper Division courses that are biomimicry-related and ideally make a connection between the student's major and the certificate (3). Students should consult with their major advisor for upper division biomimicry-related elective course selection, and will need to be approved by the student's major academic advisor.	No	3
			(Select one)	
<i>Section sub-total:</i>				3
OTHER REQUIREMENTS				Credit Hours
E.g. – Capstone experience, internship, clinical requirements, field studies, foreign language skills				
BMY 430 Biomimicry Practicum (or other biomimicry-related capstone in student's major)				3
<i>Section sub-total:</i>				
Total minimum credit hours required for certificate				18

14. Minimum residency requirement

How many hours of the certificate must be ASU credit?

18

15. New courses

List new courses in alphanumeric order and provide a brief course description for each one.

Prior to submitting this proposal, all new courses must be at the *University Review* level in [Curriculum ChangeMaker](#).

Principles of Life BMY 302 (3 Credits)

Principles of Life is a course exploring nature's universal design guidelines based on 3.8 billion years of successful strategies across all life. This course develops participants' understanding of the deep patterns found in nature, and acts as an introduction into the methodology of biomimicry-- including the review and study of life's operating conditions on Earth, the six primary principles, and their related sub-principles. This course gives participants the knowledge necessary to bring these design guidelines into practice and provides opportunity to integrate them into one's discipline.

How Nature Works BMY 230 (3 Credits)

How Nature Works teaches biology through the lens of function, thereby providing a core understanding in biology for all students, no matter their background. This course will explore the process of scientific discovery and how biological knowledge can inform other disciplines. Each week, we will investigate a new topic regarding how ecosystems and organisms' function—e.g., How do ecosystems cycle nutrients? How do animals move through air, water, and on land? How do organisms defend themselves against disease? By the end of this course, students will have learned core concepts in biology as well as how these concepts apply to other disciplines.

The Practice of Biomimicry BMY 304 (3 Credits)

The Practice of Biomimicry course will explore the process of nature-based design from a methodology-based approach. This course is a deep dive into the biomimicry process and reviews how biology and biomimicry can be incorporated into the four major phases of any design process: scoping, discovering, creating, and evaluation. It introduces the art of translating biological concepts into strategies for application and building a taxonomy of design principles. The course includes a practicing tools component and a final multi-week group project, and will offer students the structure for which biomimicry can be put to practice.

Biomimicry Practicum BMY 430 (3 Credits)

The Biomimicry Practicum is a course allowing for multi-disciplinary experimentation and creative activity within the field of biomimicry. The practicum acts as a platform to connect participants across disciplines to research and design a self-defined project in a collaborative setting. The undergraduate biomimicry practicum course is designed to allow participants to dive deep into the biomimicry tools and resources presented during the program and to apply them selectively to a specific and unique opportunity of the student's choosing. Projects should have a meaningful outcome achievable within the semester, and will allow the investigation of biomimicry Life's Principles as well as engage students in the scoping, discovering, creating and evaluating phases of biomimicry thinking. Deliverables are milestone based, and the final deliverable will have an application in a real-world setting. Successful completion of the practicum partially fulfills the graduation requirements for the Undergraduate Certificate in Biomimicry.

SECTION D - Administration and Resources**16. Administration**

How will the proposed certificate be administered (including admissions, student advisement, retention, etc.)?

The School of Sustainability will administer the certificate, in collaboration with The Biomimicry Center. The Biomimicry Center will be responsible for student and class related-needs, while the School of Sustainability will manage the administrative requirements within Arizona State University.

17. Resources

What are the resource implications for the proposed certificate, including any projected budget needs? Will new books, library holdings, equipment, laboratory space and/or personnel be required now or in the future? If multiple units/programs will collaborate in offering this certificate, please discuss the resource contribution of each participating program. Letters of support must be included from all academic units that will commit resources to this certificate.

N/A

18. Primary faculty

List the primary faculty participants regarding this proposed certificate. For interdisciplinary certificates, please include the relevant names of faculty members from across the University. The areas of specialization should refer to

FACULTY NAME	TITLE	AREA(S) OF SPECIALIZATION
Dayna Baumeister	Professor of Practice, School of Life Sciences	Biomimicry
Shirley-Ann Augustin Behraves	Senior Sustainability Scientist, School of Sustainability	Sustainability
Scott Cloutier	Assistant Professor, School of Sustainability	Sustainability
Daniel Childers	Senior Sustainability Scientist and Professor, School of Sustainability	Sustainability
Clint Penick	Assistant Research Professor, The Biomimicry Center	Biomimicry/Biology
Michelle Fehler	Clinical Assistant Professor, The Design School, Herberger Institute for Design and the Arts	Design

SECTION E - Additional Materials

- 19. Complete and attach the Appendix document.
- 20. Provide one or more model programs of study (if appropriate).
- 21. Attach other information that will be useful to the review committees and the Office of the Provost.

APPENDIX**Operational Information for Undergraduate Certificates**

This information is used to populate the [Degree Search/catalog website](#).

Please consider the student audience in creating your text.

1. Certificate Name: Undergraduate Biomimicry Certificate**2. Marketing Text** *Optional, 50 words maximum*

The marketing text should make an emotional connection with prospective students to draw them in so they continue reading. Do not repeat content found in the program description.

Biomimicry is an emerging discipline that seeks to emulate life's strategies for human design with a particular emphasis on sustainability. The undergraduate biomimicry certificate is designed to empower change-agents who are passionate about learning from nature and applying it to human design, bringing the practice of biomimicry into their field.

3. Program Description *150 words maximum*

Present factual basic and specialized information about the program to help students decide if the program is the right fit. This section is not the place for hyperbole, information about enrollment or admission, campus, course requirements, or potential careers.

The undergraduate biomimicry certificate is an 18-credit hour interdisciplinary opportunity for students from a variety of backgrounds and any major. The biomimicry undergraduate certificate is designed to address the growing interest in biomimicry knowledge and training, and students who complete the certificate will be enabled to integrate biomimicry principles and tools into their prospective career. The biomimicry certificate consists of four core classes, one elective course within the student's discipline, and a practicum capstone course offered through either the student's discipline or BMY 430 Biomimicry Practicum.

4. Contact and Support Information

Building code and room number: (Search ASU map)	CDS 126
Program office telephone number: (<i>i.e.</i> 480/965-2100)	480/965-8685
Program Email Address:	biomimicry@asu.edu
Program Website Address:	http://biomimicry.asu.edu

5. Program Requirements

These requirements will be drawn from the "proposed certificate map" that must be submitted with this proposal. Instructions to create a "proposed certificate map" in [BAMM](#) can be found in the [Build a Major Map Training Guide](#).

6. Enrollment Requirements

If applicable, list any special enrollment requirements applicable to this certificate in addition to the standard text.

Enrollment requirements for all undergraduate certificates include the following text.

A student pursuing an undergraduate certificate must be enrolled as a degree-seeking student at ASU. Undergraduate certificates are not awarded prior to the award of an undergraduate degree. A student already holding an undergraduate degree may pursue an undergraduate certificate as a nondegree-seeking graduate student.

Students must have a 3.00 GPA in order to add the undergraduate certificate in biomimicry.

7. Keywords

List all keywords used to search for this program (limit 7). Keywords should be specific to the proposed program.

All parts of the certificate name are automatically included as keywords.

Nature-inspired, biomimetics, bio-inspired, sustainability, innovation, transdisciplinary

8. Delivery/Campus Information Options: Campus immersion (ground and/or iCourses)

9. **Campus/Locations:** Indicate all campus immersion locations where this program will be offered

- Downtown Phoenix Polytechnic Tempe West Other:

2019 - 2020 CERTIFICATE Map

Biomimicry (Proposed)

Program Requirements

Students must earn a grade of "B" or better in all biomimicry certificate courses.

Core Courses -- 12 credit hours

SOS 110: Sustainable World (SB) (3)

BMY 230 / BIO 230: How Nature Works (3)

BMY 302: Principles of Life (3)

BMY 304: The Practice of Biomimicry (3)

Elective -- 3 credit hours

Upper Division Elective course that is biomimicry-related and ideally makes a connection between the student's major and the certificate (3)

Capstone -- 3 credit hours

BMY 430: Biomimicry Practicum (3)

Notes: Students may take a biomimicry-focused capstone in their corresponding major upon approval from the School of Sustainability and The Biomimicry Center.

Depending on a student's undergraduate program of study, prerequisite courses may be needed in order to complete the requirements of this certificate.



Lily Urmann <lurmann@asu.edu>

Fwd: Support letter

Dayna Baumeister <dbaumeis@asu.edu>
To: Lily Urmann <lurmann@asu.edu>

Tue, Jan 29, 2019 at 10:36 AM

◊◊◊

DAYNA BAUMEISTER, PhD
Co-Director, Biomimicry Center
Professor of Practice, SoLS
Arizona State University
dayna.baumeister@asu.edu
406-543-4108 x204
biomimicry.asu.edu

Begin forwarded message:

From: Jason Schupbach <Jason.Schupbach@asu.edu>
Subject: Support letter
Date: January 29, 2019 at 10:35:30 AM MST
To: Dayna Baumeister <dbaumeis@asu.edu>

To the review committee:

HIDA [Design School] is in full support of a campus-based undergraduate certificate in biomimicry offered through the School of Sustainability. We anticipate no conflicts and believe that many of our undergraduate students would be interested in adding this innovative program to their academic pursuits. Feel free to contact me with any questions.

Sincerely,

Jason Schupbach

--

Jason Schupbach
Director, The Design School
Herberger Institute for Design and the Arts
Arizona State University
p: [480-965-9400](tel:480-965-9400) f: [480-965-0968](tel:480-965-0968) c: [202-288-6359](tel:202-288-6359)
jason.schupbach@asu.edu

The Design School
PO Box 871605
Tempe, AZ 85287-1605

From: Dayna Baumeister <dayna.baumeister@biomimicry.net>
Sent: Wednesday, January 16, 2019 2:43 PM
To: Kyle Squires <squires@asu.edu>
Cc: Lily Urmann <lurmann@asu.edu>
Subject: Letter of Support Needed for undergraduate Biomimicry certificate

[Quoted text hidden]

Kyle Squires <squires@asu.edu>

Thu, Jan 17, 2019 at 1:57 PM

To: Dayna Baumeister <dayna.baumeister@biomimicry.net>

Cc: Lily Urmann <lurmann@asu.edu>, James Collofello <JAMES.COLLOFELLO@asu.edu>, Annette Bowers <Annette.Bowers@asu.edu>

Dear Dayna,

Thank you for updating me about the planned undergraduate certificate in Biomimicry.

The Fulton Schools of Engineering is in full support of a campus-based undergraduate certificate in biomimicry offered through the School of Sustainability. We anticipate no conflicts and believe that many of our undergraduate students would be interested in adding this innovative program to their academic pursuits. Feel free to contact me with any questions.

Sincerely,

-- Kyle

Dean and Professor | **ASU Ira A. Fulton Schools of Engineering**
699 S. Mill Avenue, Suite 650 | Tempe, AZ 85281

Ph: 480-965-2147 | Fax: 480-965-4000

engineering.asu.edu

Email: kyle.squires@asu.edu | Skype: kyle.squires | Twitter: @KyleSquires

Executive Assistant: Annette.Bowers@asu.edu



Lily Urmann <lurmann@asu.edu>

Fwd: certificate

Dayna Baumeister <dbaumeis@asu.edu>
To: Lily Urmann <lurmann@asu.edu>

Tue, Jan 29, 2019 at 10:30 AM

ooo

DAYNA BAUMEISTER, PhD
Co-Director, Biomimicry Center
Professor of Practice, SoLS
Arizona State University
dayna.baumeister@asu.edu
406-543-4108 x204
biomimicry.asu.edu

Begin forwarded message:

From: Steven Tepper <Steven.Tepper@asu.edu>
Subject: certificate
Date: January 29, 2019 at 10:24:56 AM MST
To: Dayna Baumeister <dbaumeis@asu.edu>
Cc: Jason Schupbach <Jason.Schupbach@asu.edu>

To the review committee:

HIDA is in support of a campus-based undergraduate certificate in biomimicry offered through the School of Sustainability. We anticipate no conflicts and believe that some of our undergraduate students would be interested in adding this innovative program to their academic pursuits. Feel free to contact me with any questions.

Sincerely,

Steven Tepper

Steven Tepper
Dean and Director, Herberger Institute for Design and the Arts
Foundation Professor
Arizona State University

View *Disrupt* magazine for highlights across the Herberger Institute in 2018: <https://disrupt.asu.edu/>



Lily Urmann <lurmann@asu.edu>

FW: ChangeMaker - BMY 302 Principles of Life 3 - 2201: Spring 2020 | CL: None

Dayna Baumeister <dbaumeis@asu.edu>
To: Lily Urmann <lurmann@asu.edu>

Wed, Mar 6, 2019 at 9:53 AM

ooo

DAYNA BAUMEISTER, PhD
Co-Director, Biomimicry Center
Professor of Practice, SoLS
Arizona State University
dayna.baumeister@asu.edu
406-543-4108 x204
biomimicry.asu.edu

Begin forwarded message:

From: Carole Basile <Carole.Basile@asu.edu>
Subject: **Re: ChangeMaker - BMY 302 Principles of Life 3 - 2201: Spring 2020 | CL: None**
Date: March 4, 2019 at 12:14:48 PM PST
To: Molina Walters <Molina.Walters@asu.edu>, Jan Mancini <Jan.Mancini@asu.edu>
Cc: "DrMo@asu.edu" <DrMo@asu.edu>, Dayna Baumeister <dbaumeis@mainex1.asu.edu>
Resent-From: <dbaumeis@mainex1.asu.edu>

Dayna , we are in support of this proposal. Good luck! cb

Carole G. Basile
Dean
Arizona State University
Mary Lou Fulton Teachers College
P.O. Box 871811, Tempe, AZ 85281-1811
O: [480.965.3463](tel:480.965.3463) | M: [480.310.6887](tel:480.310.6887)

From: Molina Walters <Molina.Walters@asu.edu>
Date: Friday, March 1, 2019 at 12:44 PM
To: Carole Basile <Carole.Basile@asu.edu>, Jan Mancini <Jan.Mancini@asu.edu>
Cc: "DrMo@asu.edu" <DrMo@asu.edu>
Subject: RE: ChangeMaker - BMY 302 Principles of Life 3 - 2201: Spring 2020 | CL: None

Hello Carole,

I received an email from Dayna Baumeister, the Co-Director of the Biomimicry Center, see Dayna's request below, regarding the offerings within their new Biomimicry Certificate. They are seeking feedback regarding any concerns or challenges we have with their direction. I am on the Biomimicry Education Advisory Council and have attended all of their meetings, learning about their goals and direction with the certificate. I do not believe the development of their program will challenge or harm the EE Certificate.

Can you assist Dayna with this request responding to her with any concerns administration might have or with our permission to move forward? Again, I do not foresee or have issues with their course/certificate development.

Thank you Carole.

Mo

Molina Walters, EdD
Clinical Associate Professor
Barrett Honors Faculty
Mary Lou Fulton Teachers College
Arizona State University
7271 E. Sonoran Arroyo Mall, Sta. Catalina Hall, Room 351C
Mesa, Arizona 85212-2680
Mail Code 2680

[480-727-1510](tel:480-727-1510) Office

[480-727-1964](tel:480-727-1964) Fax

[480-748-6562](tel:480-748-6562) Cell



Please consider the environment before printing this e-mail

"In every walk with nature one receives far more than he seeks." - John Muir
If a child is to keep alive his sense of wonder...he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in." - from Rachel Carson's The Sense of Wonder

[Quoted text hidden]

Caroline Harrison

From: Patricia Friedrich
Sent: Thursday, March 7, 2019 3:09 PM
To: Lily Urmann; Caroline Harrison
Subject: Re: ChangeMaker - BMY 302 Principles of Life 3 - 2201: Spring 2020 | CL: None

Thank you, Lily. I consulted with SMNS, they have no concerns, and therefore we are in support of the certificate.

To the review committee:

The New College is in full support of a campus-based undergraduate certificate in biomimicry offered through the School of Sustainability. We anticipate no conflicts and believe that many of our undergraduate students would be interested in adding this innovative program to their academic pursuits. Feel free to contact me with any questions.

Sincerely,

Patricia Friedrich

Patricia Friedrich, PhD
Associate Dean of Academic Programs and Faculty Affairs,
New College of Interdisciplinary Arts and Sciences
Professor of Linguistics/Rhetoric and Composition,
School of Humanities, Arts, and Cultural Studies
Arizona State University P. O. Box 37100
4701 W. Thunderbird Rd. Mail Code 3051
Phoenix, AZ, USA 85069-7100
voice 602 543-6046

From: Lily Urmann <lurmann@asu.edu>
Date: Thursday, March 7, 2019 at 8:41 AM
To: Patricia Friedrich <Patricia.Friedrich@asu.edu>
Cc: Lara Ferry <Lara.Ferry@asu.edu>
Subject: Re: ChangeMaker - BMY 302 Principles of Life 3 - 2201: Spring 2020 | CL: None

Thank you Patty.

Please CC Caroline Harrison (Caroline.Harrison@asu.edu) as well, she is our contact at SOS who is completing the ChangeMaker forms and is hoping to have these in the next couple days so we can get this to the March senate meeting.

My best,
Lily

On Tue, Mar 5, 2019 at 10:05 AM Patricia Friedrich <Patricia.Friedrich@asu.edu> wrote:

Hi Lily, I have forwarded it to the relevant school. More very soon, Patty

Patricia Friedrich, PhD

Associate Dean of Academic Programs and Faculty Affairs,

New College of Interdisciplinary Arts and Sciences

Professor of Linguistics/Rhetoric and Composition,

School of Humanities, Arts, and Cultural Studies

Arizona State University P. O. Box 37100

4701 W. Thunderbird Rd. Mail Code 3051

Phoenix, AZ, USA 85069-7100

voice 602 543-6046

From: Lily Urmann <lurmann@asu.edu>

Date: Tuesday, March 5, 2019 at 10:01 AM

To: Dayna Baumeister <dbaumeis@asu.edu>

Cc: Patricia Friedrich <Patricia.Friedrich@asu.edu>, Nicole Darnall <ndarnall@asu.edu>, Caroline Harrison <Caroline.Harrison@asu.edu>, Lara Ferry <Lara.Ferry@asu.edu>

Subject: Re: ChangeMaker - BMY 302 Principles of Life 3 - 2201: Spring 2020 | CL: None

Hi Patricia,

I am checking back in regarding the possibility of getting a letter of support from New College for our undergraduate biomimicry certificate. I have included some more information about the program as well as example plug and play text you may use for the letter of support. It can be simply emailed back to me and Dayna and we'll include a copy of your email/letter in our updated application.

More about the certificate: The undergraduate biomimicry certificate will be a 18-credit interdisciplinary opportunity for students from a variety of backgrounds, and available to any major. The biomimicry undergraduate certificate is designed to address the growing interest in biomimicry knowledge and training, and

students who complete the certificate will be enabled to integrate biomimicry principles and tools into their prospective career and serve as leaders in the emerging network of biomimicry researchers and practitioners. The fifth of the sixth class in the certificate will be a biomimicry-related course in the discipline of the student. There are currently a few courses already in engineering that would serve this need, but more are welcome! The sixth course requires the students to bring biomimicry to a capstone course, either one we offer, or one already offered by their school. [The first step request to the Provost attached].

To the review committee:

The New College is in full support of a campus-based undergraduate certificate in biomimicry offered through the School of Sustainability. We anticipate no conflicts and believe that many of our undergraduate students would be interested in adding this innovative program to their academic pursuits. Feel free to contact me with any questions.

Sincerely,

Thank you!

Lily

On Tue, Feb 26, 2019 at 2:40 PM Dayna Baumeister <dbaumeis@asu.edu> wrote:

@Lara- Thank you!

@ Patricia- Do you think you could write a letter of support from New College? We would ideally have this in the next few days. It doesn't have to be more than a few sentences, and can be conveyed via email.

Thanks!

Dayna

ooo

DAYNA BAUMEISTER, PhD

Co-Director, Biomimicry Center

Professor of Practice, SoLS

Arizona State University

dayna.baumeister@asu.edu

406-543-4108 x204

biomimicry.asu.edu

On Feb 25, 2019, at 12:34 PM, Lara Ferry <lara.ferry@asu.edu> wrote:

Hi Dayna,

By way of cc, I am sending this to Patricia Friedrich in the College, who would be your POC on this.

Thanks for reaching out!

Lara

Lara Ferry, PhD

President's Professor

Associate Dean for Research and Strategic Initiatives, New College of Interdisciplinary Arts and Sciences
Arizona State University

Shipping Address (packages): 4701 W. Thunderbird Rd • FAB 3rd floor • Glendale, AZ 85306-4908

Mailing Address (letters): PO Box 37100, MC 1251 • Phoenix, AZ 85069-7100

p: [602-543-2817](tel:602-543-2817)

email: lara.ferry@asu.edu

web: morphology.asu.edu

twitter: laraferry

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ASU #1 in the U.S. for innovation

#1 ASU #2 Stanford #3 MIT

—U.S. News & World Report

From: Dayna Baumeister <dbaumeis@asu.edu>

Date: Monday, February 25, 2019 at 12:29 PM

To: Lara Ferry <Lara.Ferry@asu.edu>

Cc: Lily Urmann <lurmann@asu.edu>, Nicole Darnall <ndarnall@asu.edu>, Caroline Harrison <Caroline.Harrison@asu.edu>

Subject: Re: ChangeMaker - BMY 302 Principles of Life 3 - 2201: Spring 2020 | CL: None

Hi Lara,

I hope all is well with you.

As you may be aware, we are hoping to launch an undergraduate certificate in biomimicry in the Fall. It will be accessible to all students in all majors and we are super excited about it. Per the email below, we could use a letter of support from New College. We will have one course, BMY 230/BIO 230 called The Way Life Works. It is a biology course taught functionally and we anticipate that in addition to serving the certificate that it will also be a great biology for non-majors course. Are you in a position at New College to send a letter of support or perhaps could ask Dean Sandrin (or let me know if I should)?

Thanks for your help! And let me know if you have any additional questions.

I'm also to get one from CISA, but my only contact there is in organizational development. Do you know who the biology connections are there?

Thanks,

Dayna

ooo

DAYNA BAUMEISTER, PhD

Co-Director, Biomimicry Center

Professor of Practice, SoLS

Arizona State University

dayna.baumeister@asu.edu

[406-543-4108 x204](tel:406-543-4108)

biomimicry.asu.edu

On Feb 22, 2019, at 4:02 PM, Caroline Harrison <Caroline.Harrison@asu.edu> wrote:

Lily & Dayna

FYI—See email below. If you do decide to request the impact statement from Teachers College you should probably include all of the BMY courses.

Also, they have sent back BMY 203 with the following comments:

February 22, 2019 <i>Katty McIntosh</i>	Number conflict with community colleges. Need different proposed new course number. Undergraduate certificate in Biomimicry does not yet exist (no omnibus history).
February 22, 2019 <i>April Randall</i>	Syllabus ok.

Because BIO is a shared subject, and due to potential content overlap, please attach impact statements from:

- Mary Lou Fulton Teachers College (Division of Teacher Preparation)
- New College (School of Mathematical and Natural Sciences)
- College of Integrative Sciences and Arts

I have asked them to suggest a new number since BIO didn't seem to seem to know about this issue and I doubt they would know on other numbers. I will let you know what they suggest.

As you can see, because of the BIO we need additional impact statements.

Thanks.

Caroline

From: April Randall <April.Randall@asu.edu>

Sent: Friday, February 22, 2019 3:43 PM

To: Caroline Harrison <Caroline.Harrison@asu.edu>; Katty McIntosh <katty.mcintosh@asu.edu>

Subject: RE: ChangeMaker - BMY 302 Principles of Life 3 - 2201: Spring 2020 | CL: None

Hi Caroline,

Teacher's College has a couple of biomimicry courses, SCN 207 "Introduction to Biomimicry" and SCN 307 "Learning from Nature: Biomimicry and STEM".

You don't *have* to contact them for an impact statement, but it does run the risk they may raise an objection at Senate. Or, they might not. :) So just in case, we like to recommend impact statements are obtained beforehand to ensure your courses have a smooth sailing through governance.

Let me know if you have any further questions!

Regards,

April Randall

Curriculum Coordinator, Curricular Activities and Actions

Office of the University Provost

Arizona State University

Phone: [\(480\) 965-4194](tel:4809654194)

April.Randall@asu.edu

-----Original Message-----

From: Caroline Harrison

Sent: Friday, February 22, 2019 3:22 PM

To: Katty McIntosh <katty.mcintosh@asu.edu>; April Randall

<April.Randall@asu.edu>

Subject: FW: ChangeMaker - BMY 302 Principles of Life 3 - 2201: Spring 2020 | CL:
None

I am reviewing your comments on this new course form and had a question. Why do we need an impact statement from the Teacher's College for this course?

Thanks.

Caroline

-----Original Message-----

From: CurriculumQuestions@asu.edu <CurriculumQuestions@asu.edu>

Sent: Friday, February 22, 2019 3:01 PM

To: Caroline Harrison <Caroline.Harrison@asu.edu>

Subject: ChangeMaker - BMY 302 Principles of Life 3 - 2201: Spring 2020 | CL: None

DO NOT REPLY TO THIS SYSTEM-GENERATED EMAIL.

TIP: Plan a year in advance for course proposals, especially new courses that appear before Senate.

FALL of the following year:

9/15 = College dean approval (clear college)

SPRING of the following year:

2/15 = College dean approval (clear college)

The following ASU form NEEDS REVISIONS.

Please log on to Curriculum ChangeMaker and submit your feedback:

<https://webapp4.asu.edu/changemaker-sso/authn> <https://webapp4.asu.edu/changemaker-sso/authn>

Please pay attention to posted deadlines and resubmit with time for additional reviews prior to upcoming meetings.

Form Type: New Course Form

Summary: BMY 302 Principles of Life 3 - 2201: Spring 2020 | CL: None

Routing: Sustainability

Status: Pending Revisions

Current Review Group: University Review

Comments: Please attach a revised syllabus (leave the original attached) that, per ACD 304-10, includes the instructor's general absence policy (item 5a).

Please attach a statement of support from Teachers College (Division of Teacher Preparation).

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Error! Filename not specified.

Lily Urmann

Program Coordinator, Biomimicry Center

Arizona State University

lurmann@asu.edu

(480)965-8685

biomimicry.asu.edu

--



Lily Urmann <lurmann@asu.edu>

Letters of Support Needed for undergraduate Biomimicry certificate

Kenro Kusumi <Kenro.Kusumi@asu.edu>

Mon, Jan 28, 2019 at 10:59 PM

To: Dayna Baumeister <dbaumeis@asu.edu>

Cc: Lily Urmann <lurmann@asu.edu>, Patrick Kenney <pkenney@asu.edu>, Michael Angilletta <ma@asu.edu>

Dear Dayna,

On behalf of the School of Life Sciences, I support your plans to offer an undergraduate Biomimicry certificate through the School of Sustainability. We wish you the best for your efforts to launch this certificate.

Sincerely,

Kenro Kusumi

--

Kenro Kusumi

Interim Director & Professor, School of Life Sciences

Associate Dean of Research & Digital Initiatives

The College of Liberal Arts & Sciences**Arizona State University**

PO Box 874501

Tempe AZ 85287-4501

P. 480.965.9215 | F. 480.965.6899

From: Dayna Baumeister <dbaumeis@asu.edu>**Date:** Monday, January 28, 2019 at 3:38 PM**To:** Kenro Kusumi <Kenro.Kusumi@asu.edu>**Cc:** Lily Urmann <lurmann@asu.edu>, Patrick Kenney <pkenney@asu.edu>, Michael Angilletta <ma@asu.edu>

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