

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 the Senate Curriculum and Academic Programs Committee and the University Senate, and be approved by the Office of the University Provost.

Definition and minimum requirements:

These are the minimum requirements for approval. Individual undergraduate certificates may have additional 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 free-standing 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.

An undergraduate certificate program:

- Requires a minimum of 15 semester hours of which at least 12 semester 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/Institute: College of Integrative Sciences and Arts

Department/Division/School:

Proposed Certificate Name: Desert Food Production

Requested effective Date: 2017-18

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 Thunderbird West Other:

Proposal Contact

Name: Chris A. Martin **Title:** Professor and Faculty Head
Phone number: 7-1247 **Email:** chris.martin@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: Duane Roen

Signature Duane H. Roen **Date:** 3/2/2017

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

Signature _____ **Date:** _____

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

1. Overview

A. Provide a brief description of the new certificate.

The Desert Food Production certificate equips students interested in producing foods locally with the knowledge and skills to grow edible plants and to navigate the challenges unique to desert climates. The program would be open to students of all majors at ASU and would have courses that are currently offered in the applied biological sciences degree program at its core. The 18-credit hour certificate emphasizes organic food production, sustainable horticultural technologies, green waste reduction, water conservation, maintaining biodiversity and biological cycles and enhancing soil quality. Students who complete the certificate will have marketable skills that will enable them to participate in the growing trend of producing and consuming local foods.

B. 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.

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

Sustainable production of vegetables and produce in desert climates for local consumption requires special horticultural knowledge and skills. The required and elective courses provide students with hands-on experience and the knowledge and skills necessary to successfully grow foods locally using best sustainable horticultural practices. The certificate program offers focused curriculum to optimize skills suitable for career paths for students to meet the growing demand for locally available foods.

D. 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 program is not affiliated with a specific degree program; however, it does align with degree programs in applied biological sciences, biological sciences and sustainability.

E. Demand

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

Public demand for locally grown foods using sustainable best practices is increasing as a result of concerns about public health and nutrition and environmental resource conservation. Students will be interested in this certificate program because it will provide application-based courses in the areas of food production practices, soil management, plant nursery operations and organic farming.

F. Projected enrollment

What are enrollment projections for the first three years?

	1st Year	2nd Year (Yr. 1 continuing + new entering)	3rd Year (Yr. 1 & 2 continuing + new entering)
Number of Students (Headcount)	15	25	35

2. Support and Impact

A. Faculty governance

Provide 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.

This supporting statement is provided and affirmed by Dr. Chris Martin, Faculty Head of the Faculty of Science and Mathematics. The Faculty of Science and Mathematics of the College of Integrative Sciences and Arts at the Polytechnic campus approved this certificate following appropriate deliberation. The unit has in place the resources necessary to support this certificate program as presented without negatively impacting core program resources.

Other related programs

Identify other related ASU programs and outline how the new certificate will complement these existing ASU programs. (If applicable, statements of support from potentially-affected academic unit administrators need to be included with this proposal submission.)

The certificate program in Desert Food Production aligns with degree programs in applied biological sciences and biological sciences.

Please see attached impact statements from:

- School of Life Sciences, College of Liberal Arts and Sciences
- School of Mathematical and Natural Sciences, New College of Interdisciplinary Studies
- School of Sustainability

B. Letter(s) of support

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

3. Academic Curriculum and Requirements

A. 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 (<http://www.asu.edu/oue/assessment.html>).

This certificate program introduces students to the fundamental horticultural practices and technologies of local food production systems in a desert climate, including a knowledge of organic farming, plant propagation, greenhouse nursery management and intensive plant production systems, and provides project-based and hands-on experiences. Upon completion, students will be able to understand and communicate the relationships among desert climates, plant production technologies, water and soil management, plant nutrition, plant disease management and the importance of locally grown foods for human health and nutrition. Students will also gain the practical experience of growing to full production a food crop.

B. Admissions criteria

List the admissions criteria for the proposed certificate. If they are identical to the admission criteria for the existing major and degree program under which this certificate will be established, please note that here.

Although no specific degree is required for admission to the Desert Food Production certificate program, a strong science background is desirable (found in majors such as applied biological sciences, biological sciences, sustainability and nutrition). Students should have a 2.00 GPA and be in good academic standing.

C. Curricular structure

Provide the curricular structure for this certificate. Be specific in listing required courses and specify the total minimum number of hours required for the certificate.

Required certificate courses

Prefix	Number	Title	Is this a new Course?	Credit Hours
ABS	260	Fundamentals of Sustainable Horticulture	No	4
ABS	368	Plant Propagation	No	3
ABS	460	Organic Gardening	No	2
ABS	464	Desert Horticulture	No	3
<i>Section sub-total:</i>				12

Elective certificate courses

Prefix	Number	Title	Is this a new Course?	Credit Hours
ABS	225	Soils	No	3
ABS	226	Soils Laboratory	No	1
ABS	360	Southwest Home Gardening	No	2
ABS	462	Greenhouse/Nursery Management	No	4
ABS	484	Internship	No	2
<i>Section sub-total:</i>				6

Other certificate requirements

	Credit Hours
E.g. – Capstone experience, internship, clinical requirements, field studies, foreign language skills as applicable	
<i>Section sub-total:</i>	0

Total minimum credit hours required for certificate 18

D. Minimum residency requirement
 How many hours of the certificate must be ASU credit?
 18

E. New Courses
 Provide a brief course description for each new course.
 None

Note: All new required courses should be submitted in Curriculum Changemaker and ready for Provost’s Office approval before this certificate is put on Curriculum and Academic Programs Committee (CAPC) agenda.

4. Administration and Resources

A. Administration

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

This certificate will be administered through the College of Integrative Sciences and Arts and by the Science and Mathematics faculty. Students will be advised by a faculty member designated as the Certificate Coordinator, and academic advisors will verify completion of program requirements.

B. 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.

No additional resources needed.

C. 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.

Name	Title	Area(s) of Specialization as they relate to proposed certificate
Cynthia James-Richman	Academic Professional	Horticulture
Chris A. Martin	Professor	Horticulture
Jean C. Stutz	Professor	Horticulture

5. Additional Materials

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

PROVOST OFFICE APPROVAL(S)

This proposal has been approved by all necessary Provost office levels of review. I recommend implementation of the proposed organizational change.

Office of the University Provost

Signature

Date: / /20

Note: An electronic signature, email, or a PDF of the signed signature page is acceptable.

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.)

Proposed Certificate Name: Desert Food Production

Description (150 words maximum)

The certificate program in desert food production equips students interested in producing foods locally with the knowledge and skills necessary to grow edible plants and to navigate the challenges unique to desert climates. Coursework in the program emphasizes organic food production, sustainable horticultural technologies, green waste reduction, water conservation, maintaining biodiversity and biological cycles and enhancing soil quality. Students will gain marketable skills that will enable them to participate in the growing trend of producing and supporting the consumption of local foods.

C. Contact and Support Information

Building Name, code and room number: (<i>Search ASU map</i>)	SANCA 233
Program office telephone number: (<i>i.e. 480/965-2100</i>)	480/727-1526
Program Email Address:	CISA@asu.edu
Program Website Address:	https://cisa.asu.edu

D. Program Requirements: Provide applicable information regarding the program such as curricular restrictions or requirements, specific course lists, or academic retention requirements.

The desert food production certificate requires a minimum of 18 credit hours.

Additional certificate requirements:

- Only courses in which a student receives a grade of “C” (2.00 on a 4.00 scale) or higher may be used to meet the certificate requirements.
- No more than two credit hours of ABS 484 Internship may be counted toward the certificate requirements.
- Four credit hours of certificate electives must be from upper-division courses.

Required Core Courses (12 credit hours)

ABS 260 Fundamentals of Sustainable Horticulture, SG (4)
ABS 368 Plant Propagation (3)
ABS 460 Organic Gardening (2)
ABS 464 Desert Horticulture (3)

Certificate Elective Courses (6 credit hours)

ABS 225 Soils, SQ (3)
ABS 226 Soils Laboratory, SQ (1)
ABS 360 Southwest Home Gardening (2)
ABS 462 Greenhouse/Nursery Management (4)
ABS 484 Internship (2)

Depending upon a student’s program of study, prerequisite courses may be needed in order to fulfill the requirements of this certificate.

E. 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.)

GPA Requirement: 2.00

Majors Ineligible to Add this Certificate: None

Other Enrollment Requirements: None

This certificate is open to students in any major. Please contact an advisor in the College of Integrative Sciences and Arts for more information.

F. **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.

G. **Campus/Locations:**

Indicate **all** locations where this program will be offered.

Downtown Phoenix Polytechnic Tempe Thunderbird West Other:

APPENDIX II

Proposal to Establish an Undergraduate Certificate College of Integrative Sciences and Arts

Certificate in Desert Food Production

The College of Integrative Sciences and Arts Curriculum Committee approved the proposal for the undergraduate certificate in Desert Food Production on March 1, 2017.

Impact Statement – College of Liberal Arts and Sciences

From: Michael Angilletta
Sent: Wednesday, February 01, 2017 8:11 PM
To: Chris Martin <Chris.Martin@asu.edu>
Subject: Re: Desert Food Production Certificate at ASU Poly

Hi Chris,
This certificate would not duplicate or conflict with any of our programs at the Tempe campus.
Cheers,
Mike

Michael J. Angilletta Jr.
Professor & Senior Sustainability Scholar
Associate Director of Undergraduate Programs

School of Life Sciences
Arizona State University
Tempe, AZ 85027

Impact Statement – New College of Interdisciplinary Arts and Sciences

From: Todd Sandrin
Sent: Wednesday, February 01, 2017 4:57 PM
To: Chris Martin <Chris.Martin@asu.edu>
Cc: Lara Ferry <lferry@asu.edu>
Subject: RE: Desert Food Production Certificate at ASU Poly

Hi Chris,

Thanks for your note. What an interesting and exciting certificate! New College anticipates no negative impacts on its programs and curricula.

Don't hesitate to let me know if I can help further.

Best regards,
Todd

Todd R. Sandrin, Ph.D.

Professor, School of Mathematical and Natural Sciences
Senior Sustainability Scientist - Julie Ann Wrigley Global Institute of Sustainability
Senior Associate Dean, ASU New College | Director, NCUIRE



Arizona State University

4701 W. Thunderbird Rd. | Glendale, AZ 85306
602.543.6934 | Todd.Sandrin@asu.edu

Begin forwarded message:

From: Chris Martin <Chris.Martin@asu.edu>
Date: February 1, 2017 at 3:19:38 PM MST
To: Lara Ferry <Lara.Ferry@asu.edu>
Cc: Kelli Haren <Kelli.Haren@asu.edu>
Subject: Desert Food Production Certificate at ASU Poly
Hi Lara,

We have received approval to propose a certificate in Desert Food Production on the Poly campus. Please see the attached proposal. I am asking if you could please provide an impact statement in support of this certificate in the form of a reply to this email?

All the best,

Chris

Chris A. Martin, Ph.D.,
Professor and Faculty Head
Honors Faculty
Science and Mathematics Faculty
College of Integrative Sciences and Arts
Arizona State University
<http://www.public.asu.edu/~camartin/>

Impact Statement – School of Sustainability

From: Christopher Boone
Sent: Wednesday, March 08, 2017 11:33 AM
To: Duane Roen <Duane.Roen@asu.edu>
Subject: Re: Desert Food Production Certificate Impact Statement

Duane,

The School of Sustainability is very happy to support this proposal.

Chris
Christopher Boone
Dean and Professor
School of Sustainability
Arizona State University

From: Duane Roen
Sent: Monday, March 06, 2017 8:43 AM
To: Christopher Boone <Christopher.G.Boone@asu.edu>
Subject: FW: Desert Food Production Certificate Impact Statement

Chris,

I'm checking to see if you are willing to offer an impact statement. Thanks for considering it.

Best,
Duane

From: Duane Roen
Sent: Friday, February 24, 2017 3:31 PM
To: Christopher Boone <Christopher.G.Boone@asu.edu>
Subject: Desert Food Production Certificate Impact Statement

Chris,

Attached to this message is a CISA proposal for a certificate in Desert Food Production.

If you are okay with our proposal, can you respond to this message with a brief impact statement.

Thank you for considering this request.

Best,
Duane

Duane Roen
Vice Provost, Polytechnic campus
Dean, College of Integrative Sciences and Arts
Dean, University College
Arizona State University
College of Integrative Sciences and Arts | cisa.asu.edu
University College | universitycollege.asu.edu
Mail Code: 2780
7271 E Sonoran Arroyo Mall
Mesa, AZ 85212-6415
P: 480-727-6513

From: Chris Martin
Sent: Wednesday, February 01, 2017 3:21 PM

To: Christopher Boone <Christopher.G.Boone@asu.edu>
Cc: Kelli Haren <Kelli.Haren@asu.edu>
Subject: Desert Food Production Certificate at ASU Poly

Hi Chris,

We have received approval to propose a certificate in Desert Food Production on the Poly campus. Please see the attached proposal. I am asking if you could please provide an impact statement in support of this certificate in the form of a reply to this email?

All the best,

Chris

Chris A. Martin, Ph.D.,
Professor and Faculty Head
Honors Faculty
Science and Mathematics Faculty
College of Integrative Sciences and Arts
Arizona State University
<http://www.public.asu.edu/~camartin/>