

FORM TO REQUEST SUBSTANTIAL CHANGES TO AN EXISTING UNDERGRADUATE MAJOR

A request for substantial changes to an existing program requires approval from the school director/department head (managing administrator), college academic dean, Curricular Affairs, Undergraduate Council (UGC), and College Academic Administrators Council (CAAC). Additional approvals may be required, depending on the requested changes. Complete this form and submit to Martin Marquez (martinmarquez@email.arizona.edu) no later than October 25, 2019 to be considered for inclusion in the 2020-2021 Academic Catalog.

I. Requested by (College & School/Department): Biosystems Engineering Department, Environmental Science Department, and the School of Plant Sciences, College of Agriculture and Life Sciences

II. Proposer's name, title, email and phone number:

Dr. Kitt Farrell-Poe, Head of Biosystems Engineering Department, kittfp@email.arizona.edu, 626-9120

Dr. Jon Chorover, Head of Environmental Science Department, chorover@email.arizona.edu, 621-7228

Dr. Matt Jenks, Director of the School of Plant Sciences, jenksm@email.arizona.edu, 621-1977

III. Degree, major and number of students enrolled in the major. If you have emphases (sub-plans), list the number of students enrolled by emphasis:

Sustainable Plant Systems, 58 majors

Emphasis areas:

Agronomy	9
Controlled Environment Agriculture	22
Environmental Horticulture	6
Fresh Produce Safety	11
Undeclared	10

IV. Describe proposed changes to the major. Provide a rationale and explanation for making changes to the major and include any relevant supporting data. Are the changes proposed a result of Annual Program Review (APR) and/or a result from the assessment of programmatic outcomes? If you are requesting a name change, please indicate if the subject code (course prefix) will also change. Include requested new prefix code and description.

The Sustainable Plant Systems (SPS) BS degree Fresh Produce Safety emphasis area is offered through the UA Yuma campus. Changes include requiring PLS 360 *Plant Growth and Physiology* (in the core requirements for UA Yuma students). Additionally, MIC 430 *Food Microbiology and Biotechnology*, now available in Yuma, will be a required course in the revised emphasis curriculum.

An applied class focused on real-life management problems, ASM 490 *Case Studies for Agricultural Systems Management* has been added to the list of selectives to give students an additional opportunity for career-relevant experience. AGTM 375 *Agricultural Law*, now regularly offered in Yuma, has also been added as a selective.

V. Comparison Chart—complete the chart below using your existing [academic advisement report](#). You may not need to complete all portions. Highlight row(s) indicating the proposed significant changes. You can find course information to help complete the chart below by using the [UA course catalog](#) or [UAnalytics](#) (Catalog and Schedule Dashboard> “Printable Course Descriptions by Department” On Demand Report; right side of screen). Proposed changes resulting in similar curriculum with other plans (within department, college, or university) may require completion of an additional comparison chart.

	Existing Major Requirements	Requirements For Modified Major
Major, emphasis (if applicable) and degree *	UGRD.UAGSC.SPSBS.FOOD S Fresh Produce Safety	UGRD.UAGSC.SPSBS.FOOD S Fresh Produce Safety
CIP Code –lookup here or contact Martin Marquez for assistance, if needed	01.9999 Agriculture, Agriculture/Operations/an d Related Sciences	01.9999 Agriculture, Agriculture/Operations/an d Related Sciences
Total units required to complete the degree*	120	120
Upper -division units required to complete the degree	42	42
Total CC transfer units that may apply to this degree*	64	64
Foundation courses		
Math	Substantial Math Strand	Substantial Math Strand
Second Language	Second Semester Proficiency	Second Semester Proficiency
General Education		
Tier I GE Requirements (150, 160, 170)	2- Tier 1 150 (INDV) 2- Tier 1 160 (TRAD) 0- Tier 1 170 (NATS)	2- Tier 1 150 (INDV) 2- Tier 1 160 (TRAD) 0- Tier 1 170 (NATS)
Tier II GE Requirements (Arts, HUMS, INDV, NATS)	3 units -Tier II Arts 1-Tier II Humanities 1- Tier II Individuals and Societies 0-Tier II Natural Sciences	3 units -Tier II Arts 1-Tier II Humanities 1- Tier II Individuals and Societies 0-Tier II Natural Sciences
Diversity Emphasis Core	1- General Education Diversity Emphasis Course	1- General Education Diversity Emphasis Course
Pre-major? (Yes/No)	No	No
List any special requirements to declare or gain admission to this major (completion of specific coursework, minimum GPA, interview, application, etc.)	None	None
Minimum # of units required in the major (units counting towards major units and major GPA)	57	67
Minimum # of upper-division units required in the major (upper division units counting towards major GPA)	45	57
Minimum # of residency units to be completed in the major	18	18

<p>Required supporting coursework (courses that do not count towards major units and major GPA, but are required for the major). Courses listed must include prefix, number, units, and title. Include any limits/restrictions in place/needed (house number limit, etc.). Provide email(s)/letter(s) of support from home department head(s) for courses not owned by your department.</p>	<p>Supporting Coursework: refer to SPSBS Core modification request.</p>	<p>Supporting Coursework: refer to SPSBS Core modification request.</p>
<p>Major requirements. List all major requirements including core and electives. If applicable, list the emphasis^ requirements. Courses listed count towards major units and major GPA. Courses listed must include prefix, number, units, and title. Mark new coursework (New). Include any limits/restrictions in place/needed (house number limit, etc.). Provide email(s)/letter(s) of support from home department head(s) for courses being added and are not owned by your department. Recommend ordering requirements in the same order as your advisement report.</p>	<p>Core: refer to the SPS BS Core modification request.</p> <p>PLP 305 (3) Introductory Plant Pathology</p> <p>PLS 306 (3) Crop Science and Production</p> <p>ASM 311 (3) Quantitative Business Analysis in Agricultural Systems1</p> <p>PLS 359 (3) Plant Cell Structure and Function</p> <p>ENTO 300 (3) Insect Pest Management for Desert Cropping Systems</p> <p>ASM 409 (3) Systems and Advanced Technologies in Agriculture1</p> <p>PLS 467 (3) Fresh Produce Safety1</p> <p>PLS 300 (3) Applied Weed Science</p> <p>MIC 205A (3) General Microbiology</p> <p>---</p> <p>Complete 6 units from the following:</p> <p>PLS 306 (3) Crop Science and Production</p> <p>NSC 353 (3) Fundamentals of Food Science & Safety</p> <p>PLS 403 (3) Citrus Production1</p> <p>ASM 404 (3) Irrigation Principles and Management</p>	<p>Core: refer to the SPS BS Core modification request.</p> <p>PLS 306 (3) Crop Production and Production</p> <p>ASM311 (3) Quantitative Business Analysis in Agricultural Systems</p> <p>PLS 467 (3) Fresh Produce Safety</p> <p>NSC 353 (3) Fundamentals of Food Science & Safety</p> <p>MIC 430 (3) Food Microbiology and Biotechnology</p> <p>---</p> <p>Complete 12 units from the following. No more than 3 units of PLS 497F are allowed:</p> <p>ASM 409 (3) Systems and Advanced Technologies in Agriculture</p> <p>ASM490 (3) Case Studies for Agricultural Systems Management</p> <p>AGTM 375 (3) Legal Issues in Agriculture</p> <p>PLS 359 (3) Plant Cell Structure & Function</p> <p>PLS 360 (3) Plant Growth & Physiology</p> <p>PLS497 (2-6) Community & School Garden Workshop</p> <p>PLS 403 (3) Citrus Production</p>

	<p>ASM 493 (3 – 6) Internship</p> <p>ASM 499 (1 – 5) Independent Study</p> <p>PLP 329A (3) Microbial Diversity</p> <p>PLS 397A 3 Yuma Production Systems1</p> <p>PLP 427R (2) General Mycology</p> <p>PLP 428R (3) Microbial Genetics</p> <p>PLS 475A (3) Applied Plant Physiology</p> <p>GEOG 497F (2 – 6) Community and School Garden Workshop</p> <p>---</p>	<p>PLS 300 (3) Applied Weed Science</p> <p>---</p>
Internship, practicum, applied course requirements. (Yes/No). If yes, provide description.	No	
Senior thesis or senior project required (Yes/No). If yes, provide description.	No	No
Additional requirements (provide description) Fresh Produce Safety Emphasis area		
Minor (optional or required)	Optional	Optional

*May require Arizona Board of Regents (ABOR) approval

^Emphases are officially recognized sub-specializations within the discipline. [ABOR Policy 2-221 c. Academic Degree Programs Subspecializations](#) requires all undergraduate emphases within a major to share at least 40% curricular commonality across emphases (known as “major core”). Total units required for each emphasis must be equal.

VI. Peer institution comparison- describe how your modified major requirements are similar and different from major requirements of two peer institutions. Select peers from (in order of priority) [ABOR approved institutions](#), [AAU members](#), and/or other relevant institutions recognized in the field.

To address the demand of fresh producers for specialized food safety professionals, the University of Arizona offers unique training in the *Sustainable Plant Systems, Fresh Produce Safety* emphasis area. Although the University of Arizona degree is unlike any offered at peer institutions, the current and proposed UA *Sustainable Plant Systems, Fresh Produce Safety* emphasis area degree requirements were compared with programs at several peer institutions: the University of Connecticut, the University of Illinois, Michigan State University, and The Ohio State University.

The University of Connecticut offers a BS degree in *Sustainable Plant and Soil Systems*, with focal areas in *Environmental Horticulture, Sustainable Agriculture, and Turfgrass Science*. The most comparable of these to the University of Arizona *Fresh Produce Safety* emphasis area is the University of Connecticut *Environmental Horticulture* concentration area. University of Connecticut students in this area must complete two of three courses from each of the following groups: plant pathology, weed science, entomology; ornamental plants, woody plants, indoor plants; organic vegetable production, urban plant systems, retail management. There are no courses that directly address food safety. In contrast, University of Arizona students must complete PLS 467 *Fresh Produce Safety*, NSC 353 *Fundamentals of Food Science & Safety*, MIC 430

Food Microbiology and Biotechnology, PLS 306 *Crop Production*, and ASM 311 *Quantitative Business Analysis*, as well as 10 units of selectives from among plant physiology, crop production, weed science, or agricultural law.

The University of Illinois offers a *Horticultural Food Systems* BS. This degree focuses on crop production, and provides no areas of emphasis or specialization. No courses in food safety are available.

Michigan State University's *Horticulture* BS degree includes a *Sustainable and Organic Horticulture* emphasis area. This curriculum requires courses in organic farming, composting, plant pathology, pest management, and soil biology. Six selective courses are required, chosen from greenhouse management, crop production, weed science, plant physiology, food storage, marketing, and crop breeding. No courses in food safety are offered.

The Ohio State University *Sustainable Plant Systems* degree *Horticulture* emphasis area requires courses in horticulture, horticultural systems, plant propagation, weed science, soil science, entomology, and plant pathology. They offer no courses in food safety.

The University of Arizona *Sustainable Plant Systems, Fresh Produce Safety* emphasis area is unique. It has been carefully tailored to the rapidly expanding field of food safety, with a strong focus on leafy green crops that are the backbone of Arizona's vegetable production industry. This emphasis area combines studies of food production systems, plant physiology, agricultural law, business, with a primary emphasis is on food safety. Required courses directed toward this area: PLS 467 *Fresh Produce Safety*, NSC 353 *Fundamentals of Food Science & Safety*, MIC 430 *Food Microbiology and Biotechnology*.

VII. Faculty impact– indicate if new faculty hires will be required to deliver the proposed modified/new curriculum.

No new faculty hires will be required to deliver the modified SPS curriculum.

VIII. Budgetary impact– indicate new resources needed and source of funding to implement the proposed changes. If reallocating resources, indicate where resources will be taken from and the impact this will have on students/faculty/program/unit.

No new resources will be needed to implement the proposed SPS curriculum modifications.

IX. Required signatures

Managing unit administrator (print name and title): Dr. Kitt Farrell-Poe, Head of Biosystems Engineering Department

Managing administrator's signature: K. L. Farrell-Poe Date: 10/16/19

Managing unit administrator (print name and title): Dr. Jon Chorover, Head of Environmental Science Department

Managing administrator's signature: Jon Chorover Date: 10/16/2019

Managing unit administrator (print name and title): Dr. Matt Jenks, Director of the School of Plant Sciences

Managing administrator's signature: Matt Jenks Date: 10/16/2019

Dean (print name): Michael Staten, Associate Dean

Dean's signature: Michael Staten Date: 10/16/2019

Dean (print name): _____

Dean's signature: _____ Date: _____

Note: In some situations, signatures of more than one unit head and/or college dean may be required.

For use by Curricular Affairs:

Committee	Approval date
Academic Programs Subcommittee	
Undergraduate Council	
College Academic Administrators Council	
Arizona Board of Regents (if applicable)	

- Notify proposers of approval
- Upload proposal documents to relevant UAccess tables
- Notify ADVIP team and proposers

If ABOR approval required :

- If applicable, create approval memo
- Send memo to college/dept and acad_org listserv.
- If applicable, create new plan code (secondary too)
- If applicable, update emphases
- If applicable, add last admit term to prior plan code(s)
- Upload proposal docs to relevant UAccess table values
- Notify ADVIP team and proposers

Sustainable Plant Systems Major

Department/School	Class	Contact	Date Sent	Response Date
Animal & Comparative Biomedical Sciences	ACBS 411 ACBS 437 ACBS 456 MIC 430	spstock@email.arizona.edu	10/9/2019	11/14/2019
			11/13/2019	
Agricultural Education	AGTM 200 AGTM 330 AGTM 375 AGTM 350 AGTM 351 ASM 392, 3 ASM 404 ASM 499	rtorres@email.arizona.edu	10/9/2019	10/11/2019
American Indian Studies	AIS 441A	sakiestewa@email.arizona.edu	10/9/2019	10/14/2019
Agricultural & Resource Economics	AREC 239	garyt@ag.arizona.edu	10/9/2019	11/13/2019
			11/13/2019	
Chemistry & Biochemistry	BIOC 384	sanov@u.arizona.edu	10/9/2019	10/9/2019
Computer Science	CSC 250	proebsting@email.arizona.edu	10/9/2019	10/16/2019
Ecology & Evolutionary Biology	ECOL 414	worobey@email.arizona.edu	10/9/2019	11/26/2019
			11/13/2019	
Entomology	ENTO 300 ENTO 310 ENTO 468	brucet@ag.arizona.edu	10/9/2019	10/9/2019
School of Geography & Development	GEOG 330	liverman@email.arizona.edu	10/9/2019	10/10/2019
Landscape & Architecture Planning	LAR 350 LAR 420 LAR 423 PLG 408 SBE 201	ljohnson@email.arizona.edu	10/9/2019	10/10/2019
School of Natural Resources & the Environment	RNR 310 RNR 400 RNR 403 RNR417 RNR 483	squirrel@ag.arizona.edu	10/9/2019	10/9/2019

Use of ACBS course in the B.S. Sustainable Plant Systems curriculum

8 messages

Trent Patrick Rodriguez <trentrodriguez@email.arizona.edu>

Wed, Oct 9, 2019 at 10:09 AM

To: environmentalscience@email.arizona.edu

spstock@email.arizona.edu

Dear Dr. Stock,

The Department of Environmental Science is proposing significant changes to the Sustainable Plant Systems BS program. We would like to include one or more courses offered by your academic unit as subplan selectives and a subplan requirement in the major. Currently, there are 48 majors in the program, so the enrollment will not be significant. As part of the approval process we need to include a memorandum of support from you. We would be grateful if you would please review the attached information and sign the attached memorandum if you can. An electronic signature is fine. If you have any questions or concerns about our request, please let me know.

Once you have signed the memorandum, please return to me by email.

Sincerely,

Jon Chorover

Professor and Head

Department of Environmental Science

University of Arizona

Tucson, AZ 85721-0038

Phone: (520) 621-1646

Fax: (520) 621-1647

Email: chorover@email.arizona.edu



ACBS major selective request 10.4.2019.docx

24K

Environmental Science <EnvironmentalScience@email.arizona.edu>

Wed, Oct 9, 2019 at 10:30 AM

To: "Stock, S. Patricia - (spstock)" <spstock@email.arizona.edu>

Dear Dr. Stock,

The Department of Environmental Science is proposing significant changes to the Sustainable Plant Systems BS program. We would like to include one or more courses offered by your academic unit as subplan selectives and a subplan requirement in the major. Currently, there are 48 majors in the program, so the enrollment will not be significant. As part of the approval process we need to include a memorandum of support from you. We would be grateful if you would please review the attached information and sign the attached memorandum if you can. An electronic signature is fine. If you have any questions or concerns about our request, please let me know.

Once you have signed the memorandum, please return to me by email.

Sincerely,

Jon Chorover
Professor and Head
Department of Environmental Science
University of Arizona
Tucson, AZ 85721-0038
Phone: (520) 621-1646
Fax: (520) 621-1647
Email: chorover@email.arizona.edu<<mailto:chorover@email.arizona.edu>>

 **ACBS major selective request 10.4.2019.docx**
24K

Landeen, Kathleen A - (klandeen) <klandeen@email.arizona.edu>
To: "Stock, S. Patricia - (spstock)" <spstock@email.arizona.edu>
Cc: "Rodriguez, Trent Patrick - (trentrodriguez)" <trentrodriguez@email.arizona.edu>

Wed, Nov 13, 2019 at 10:16 AM

[Quoted text hidden]

 **ACBS major selective request 10.4.2019.docx**
24K

Stock, S. Patricia - (spstock) <spstock@email.arizona.edu>
To: "Landeen, Kathleen A - (klandeen)" <klandeen@email.arizona.edu>
Cc: "Rodriguez, Trent Patrick - (trentrodriguez)" <trentrodriguez@email.arizona.edu>

Wed, Nov 13, 2019 at 2:48 PM

Dear Kathleen:

We can allow the listing of these courses but with some limitations. Please see below:

ACBS 411 Agriculture, Environmental and Legal Issues; subplan option - Can be used but this will be reserved for all ACBS students first

ACBS 437 Food Safety Laws and Legal Policies; subplan option Can be used but this will be reserved for all ACBS students first

ACBS 456 Aquaculture; subplan option- Can be used but this will be reserved for all ACBS students first

MIC 430 Micro & Food; subplan requirement- This is in Food Safety Core and would like to reserve this for our students, being only available if our cap enrollment is not met.

If this still works for you, I am OK with signing the form. Just let me know.

Cheers,

Dr. S. Patricia Stock
Director and Professor, School of Animal and Comparative Biomedical Sciences
Weiler Endowed Chair for Excellence in Agriculture and Life Sciences
The University of Arizona
1117 E. Lowell St. P.O. Box 210090 Tucson, AZ 85721
Office: +1-520-621-0868 Fax:+1- 520-626-5602
e-mail: spstock@email.arizona.edu
URL: <https://acbs.cals.arizona.edu/people/s-patricia-stock>

Additional Appointments:
Professor, Department of Entomology
Professor, Honors College

Lab address: Marley Bldg. Room 718/720/724
1145 E. 4th Street, Tucson AZ 85721
Lab Phone (+1-520) 621-1317

From: Landeen, Kathleen A - (klandeen) <klandeen@email.arizona.edu>
Sent: Wednesday, November 13, 2019 10:16 AM
To: Stock, S. Patricia - (spstock) <spstock@email.arizona.edu>
Cc: Rodriguez, Trent Patrick - (trentrodriguez) <trentrodriguez@email.arizona.edu>
Subject: Use of ACBS course in the B.S. Sustainable Plant Systems curriculum

[Quoted text hidden]

 **winmail.dat**
35K

Landeen, Kathleen A - (klandeen) <klandeen@email.arizona.edu> Thu, Nov 14, 2019 at 9:11 AM
To: "Stock, S. Patricia - (spstock)" <spstock@email.arizona.edu>
Cc: "Rodriguez, Trent Patrick - (trentrodriguez)" <trentrodriguez@email.arizona.edu>, "Walworth, Jim - (jlw1)" <Walworth@ag.arizona.edu>

Good morning:

The limitations you described are reasonable. Thank you for allowing SPS students to use ACBS courses as allowed by seat availability. We look forward to receiving you signed form and will include a copy of this thread with the MEMO.

Kathleen Landeen

From: Stock, S. Patricia - (spstock) <spstock@email.arizona.edu>
Sent: Wednesday, November 13, 2019 2:48 PM
To: Landeen, Kathleen A - (klandeen) <klandeen@email.arizona.edu>
Cc: Rodriguez, Trent Patrick - (trentrodriguez) <trentrodriguez@email.arizona.edu>
Subject: Re: Use of ACBS course in the B.S. Sustainable Plant Systems curriculum

Dear Kathleen:

We can allow the listing of these courses but with some limitations. Please see below:

ACBS 411 Agriculture, Environmental and Legal Issues; subplan option - Can be used but this will be reserved for all ACBS students first

ACBS 437 Food Safety Laws and Legal Policies; subplan option Can be used but this will be reserved for all ACBS students first

ACBS 456 Aquaculture; subplan option- Can be used but this will be reserved for all ACBS students first

MIC 430 Micro & Food; subplan requirement- This is in Food Safety Core and would like to reserve this for our students, being only available if our cap enrollment is not met.

If this still works for you, I am OK with signing the form. Just let me know.

Cheers,

Dr. S. Patricia Stock
Director and Professor, School of Animal and Comparative Biomedical Sciences
Weiler Endowed Chair for Excellence in Agriculture and Life Sciences

The University of Arizona
1117 E. Lowell St. P.O. Box 210090 Tucson, AZ 85721
Office: +1-520-621-0868 Fax:+1- 520-626-5602
e-mail: spstock@email.arizona.edu<mailto:spstock@email.arizona.edu>
URL: <https://acbs.cals.arizona.edu/people/s-patricia-stock>

Additional Appointments:
Professor, Department of Entomology
Professor, Honors College

Lab address: Marley Bldg. Room 718/720/724
1145 E. 4th Street, Tucson AZ 85721
Lab Phone (+1-520) 621-1317

From: Landeen, Kathleen A - (klandeen) <klandeen@email.arizona.edu<mailto:klandeen@email.arizona.edu>>
Sent: Wednesday, November 13, 2019 10:16 AM
To: Stock, S. Patricia - (spstock) <spstock@email.arizona.edu<mailto:spstock@email.arizona.edu>>
Cc: Rodriguez, Trent Patrick - (trentrodriguez) <trentrodriguez@email.arizona.edu<mailto:trentrodriguez@email.arizona.edu>>

[Quoted text hidden]

 **winmail.dat**
24K

Stock, S. Patricia - (spstock) <spstock@email.arizona.edu> Thu, Nov 14, 2019 at 11:01 AM
To: "Landeen, Kathleen A - (klandeen)" <klandeen@email.arizona.edu>
Cc: "Rodriguez, Trent Patrick - (trentrodriguez)" <trentrodriguez@email.arizona.edu>, "Walworth, Jim - (jlw1)" <Walworth@ag.arizona.edu>

Kathleen: please find attached signed memo.
Cheers,

Patricia

Dr. S. Patricia Stock
Director and Professor, School of Animal and Comparative Biomedical Sciences
Weiler Endowed Chair for Excellence in Agriculture and Life Sciences
The University of Arizona
1117 E. Lowell St. P.O. Box 210090 Tucson, AZ 85721
Office: +1-520-621-0868 Fax:+1- 520-626-5602
e-mail: spstock@email.arizona.edu
URL: <https://acbs.cals.arizona.edu/people/s-patricia-stock>


Additional Appointments:
Professor, Department of Entomology
Professor, Honors College

Lab address: Marley Bldg. Room 718/720/724
1145 E. 4th Street, Tucson AZ 85721
Lab Phone (+1-520) 621-1317

From: Landeen, Kathleen A - (klandeen) <klandeen@email.arizona.edu>
Sent: Thursday, November 14, 2019 9:11 AM
To: Stock, S. Patricia - (spstock) <spstock@email.arizona.edu>
Cc: Rodriguez, Trent Patrick - (trentrodriguez) <trentrodriguez@email.arizona.edu>; Walworth, Jim - (jlw1) <Walworth@ag.arizona.edu>
Subject: RE: Use of ACBS course in the B.S. Sustainable Plant Systems curriculum

MEMO

DATE: October 4, 2019

TO: S. Patricia Stock, Professor and Director,
Animal & Comparative Biomedical Sciences 

FROM: Jon Chorover, Professor and Head, Environmental Science

RE: Use of ACBS course in the B.S. Sustainable Plant Systems curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Sustainable Plant Systems** degree, SPSBS, as specified below:

ACBS 411 Agriculture, Environmental and Legal Issues; subplan option
ACBS 437 Food Safety Laws and Legal Policies; subplan option
ACBS 456 Aquaculture; subplan option
MIC 430 Micro & Food; subplan requirement

Managing Administrator: Patricia Stock, Ph.D.

Managing Administrator's Signature: _____ Date: _____

MEMO

DATE: October 4, 2019

TO: Robert Torres, Professor and Head,
Agricultural Education

FROM: Jon Chorover, Professor and Head, Environmental Science

RE: Use of AED course in the B.S. Sustainable Plant Systems curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Sustainable Plant Systems** degree, SPSBS as specified below:

AGTM 200 Solar Photovoltaic Energy Systems with Applications to Agriculture; subplan option
AGTM 330 Turf and Landscape Technology; subplan option
AGTM 375 Agriculture Law; subplan option
AGTM 350 Applications in Agricultural Mechanics; subplan option
AGTM 351 Operations in Agricultural Mechanics; subplan option
ASM 392,393, 399, 492, 493, 498H, 499 Experiential Learning; core option
ASM 404 Irrigation Principles and Management (Yuma); core option
ASM 499 Independent Study; core requirement

Managing Administrator: Robert Torres, Professor and Head, AED

Managing Administrator's Signature



Date:

10/11/19

Department of Environmental
Science



428 Shantz Building, #38
1200 E. South Campus Drive
P.O. Box 210038
Tucson, AZ 85721-0038 USA
(520) 621-1606
FAX: (520) 621-1647
swes.cals.arizona.edu

MEMO

DATE: October 4, 2019

TO: Matthew Sakiestewa Gilbert, Professor and Head,
American Indian Studies

FROM: Jon Chorover, Professor and Head, Environmental Science

RE: Use of AIS course in the B.S. Sustainable Plant Systems curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Sustainable Plant Systems** degree, SPSBS as specified below:

AIS 441A Natural Resource Management in Native Communities; subplan option

Managing Administrator: Matthew Sakiestewa Gilbert, Professor and Head, American Indian Studies

Managing Administrator's Signature: _____



Date: _____

10/16/2019

Department of Environmental
Science



428 Shantz Building, #38
1200 E. South Campus Drive
P.O. Box 210038
Tucson, AZ 85721-0038 USA
(520) 621-1606
FAX: (520) 621-1647
swes.cals.arizona.edu

MEMO

DATE: October 4, 2019

TO: Gary Thompson, Professor and Department Head,
Agricultural & Resource Economics

FROM: Jon Chorover, Professor and Head, Environmental Science

RE: Use of AREC course in the B.S. Sustainable Plant Systems curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Sustainable Plant Systems** degree, SPSBS as specified below:

AREC 239 Introduction to Statistics and Data Analysis; core option

Managing Administrator: Gary Thompson, Professor and Department Head, Agricultural & Resource Economics

Managing Administrator's Signature:



Date:

11-13-19

MEMO

DATE: October 4, 2019

TO: Andrei Sanov, Professor and Head,
Chemistry & Biochemistry

FROM: Jon Chorover, Professor and Head, Environmental Science

RE: Use of BIOC course in the B.S. Sustainable Plant Systems curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Sustainable Plant Systems** degree, SPSBS as specified below:

BIOC 384 Foundations in Biochemistry; subplan option

Managing Administrator: Andrei Sanov, Professor and Head, Chemistry & Biochemistry

Managing Administrator's Signature:  Date: 10/9/2019



Trent Patrick Rodriguez <trentrodriguez@email.arizona.edu>

Use of CSC course in the B.S. Sustainable Plant Systems curriculum

4 messages

Trent Patrick Rodriguez <trentrodriguez@email.arizona.edu>

Wed, Oct 9, 2019 at 10:16 AM

To: environmentalscience@email.arizona.edu

proebsting@email.arizona.edu

Dear Dr. Proebsting,

The Department of Environmental Science is proposing significant changes to the Sustainable Plant Systems BS program. We would like to include one or more courses offered by your academic unit as a requirement in the major. Currently, there are 48 majors in the program, so the enrollment will not be significant. As part of the approval process we need to include a memorandum of support from you. We would be grateful if you would please review the attached information and sign the attached memorandum if you can. An electronic signature is fine. If you have any questions or concerns about our request, please let me know.

Once you have signed the memorandum, please return to me by email.

Sincerely,

Jon Chorover

Professor and Head

Department of Environmental Science

University of Arizona

Tucson, AZ 85721-0038

Phone: (520) 621-1646

Fax: (520) 621-1647

Email: chorover@email.arizona.edu



CSC major selective request 10.4.2019.docx

24K

Trent Patrick Rodriguez <trentrodriguez@email.arizona.edu>

Wed, Oct 9, 2019 at 10:44 AM

To: environmentalscience@email.arizona.edu

[Quoted text hidden]



CSC major selective request 10.4.2019.docx

24K

Environmental Science <EnvironmentalScience@email.arizona.edu>

Wed, Oct 9, 2019 at 10:48 AM

To: "Proebsting, Todd A - (proebsting)" <proebsting@email.arizona.edu>

Dear Dr. Proebsting,

The Department of Environmental Science is proposing significant changes to the Sustainable Plant Systems BS program. We would like to include one or more courses offered by your academic unit as a requirement in the major. Currently, there are 48 majors in the program, so the enrollment will not be significant. As part of the approval process we need to include a memorandum of support from you. We would be grateful if you would please review the attached information and sign the attached memorandum if you can. An electronic signature is fine. If you have any questions or concerns about our request, please let me know.

Once you have signed the memorandum, please return to me by email.

Sincerely,

Jon Chorover
Professor and Head
Department of Environmental Science
University of Arizona
Tucson, AZ 85721-0038
Phone: (520) 621-1646
Fax: (520) 621-1647
Email: chorover@email.arizona.edu<<mailto:chorover@email.arizona.edu>>

 **CSC major selective request 10.4.2019.docx**
24K

Environmental Science <EnvironmentalScience@email.arizona.edu>
To: "Rodriguez, Trent Patrick - (trentrodriguez)" <trentrodriguez@email.arizona.edu>

Wed, Nov 13, 2019 at 10:08 AM

From: Todd Proebsting <proebsting@cs.arizona.edu>
Sent: Wednesday, October 16, 2019 11:15 AM
To: Environmental Science <EnvironmentalScience@email.arizona.edu>
Subject: Re: Use of CSC course in the B.S. Sustainable Plant Systems curriculum

Jon,
We can certainly handle more students in CSC 250. We should note that Computer Science is very likely to revisit the content of 250 in the next year or two to better serve our constituents. Are you OK with that uncertainty?

Cheers,
Todd

[Quoted text hidden]

 **winmail.dat**
15K

MEMO

DATE: October 4, 2019

TO: Michael Worobey, Professor and Head, Ecology & Evolutionary Biology

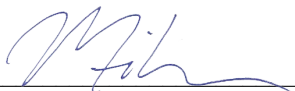
FROM: Jon Chorover, Professor and Head, Environmental Science

RE: Use of ECOL course in the B.S. Sustainable Plant Systems curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Sustainable Plant Systems** degree, SPSBS as specified below:

ECOL 414 Plants of the Desert; subplan option

Managing Administrator: Michael Worobey, Professor and Head, EEB

Managing Administrator's Signature:  Date: 11/26/2019

MEMO

DATE: **October 9, 2019**

TO: **Jon Chorover, Professor and Head, Environmental Science**

FROM: **Bruce Tabashnik, Regents' Professor and Head,
Entomology**

RE: **Use of ENTO courses in the B.S. Sustainable Plant Systems curriculum**

We approve the courses for use in the undergraduate curriculum for the **Sustainable Plant Systems** degree, SPSBS as specified below:

ENTO 300 Insect Pest Management for Desert Cropping Systems; core option

ENTO 468 Integrated Pest Management; core option

ENTO 310 Living in Symbiosis; subplan option

Managing Administrator: Bruce Tabashnik, Regents' Professor and Head, Entomology

Managing Administrator's Signature:



Date: 10-9-19

MEMO

DATE: October 4, 2019

TO: Diana Liverman, Director & Regents' Professor,
School of Geography and Development

FROM: Jon Chorover, Professor and Head, Environmental Science

RE: Use of GEOG course in the B.S. Sustainable Plant Systems curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Sustainable Plant Systems** degree, SPSBS as specified below:

GEOG 330 Introduction to Remote Sensing; subplan option

Managing Administrator: Diana Liverman, Director & Regents' Professor, SGD



October 10, 2019

Managing Administrator's Signature: _____ Date: _____

MEMO

DATE: October 4, 2019

TO: Lauri Johnson, Professor and Director,
Landscape Architecture & Planning

FROM: Jon Chorover, Professor and Head, Environmental Science

RE: Use of LAR course in the B.S. Sustainable Plant Systems curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Sustainable Plant Systems** degree, SPSBS as specified below:

LAR 350 Parks and Urban Public Spaces; subplan option
LAR 420 Plant Materials; subplan requirement
LAR 423 Landscape Ecology; subplan option
PLG 408 Planning for Urban Resilience; subplan option
SBE 201 Sustainable Design and Planning; subplan option

Managing Administrator: Lauri Johnson, Professor and Director, Landscape Architecture & Planning

Managing Administrator's Signature:  _____ Date: 10/10/2019

MEMO

DATE: October 4, 2019

TO: John Koprowski, Professor and Director,
School of Natural Resources and the Environment

FROM: Jon Chorover, Professor and Head, Environmental Science

RE: Use of RNR course in the B.S. Sustainable Plant Systems curriculum

We approve the course(s) for use in the undergraduate curriculum for the **Sustainable Plant Systems** degree, SPSBS as specified below:

RNR 310 Agave, Cacti, and Other Succulents of Southern Arizona; subplan option
RNR 400 Noxious Invasive Plants of Arizona; subplan option
RNR 403 Applications of Geographic Information Systems; subplan option
RNR 417 Geographic Information Systems for Natural and Social Sciences; subplan option
RNR 483 Geographic Applications of Remote Sensing; subplan option

Managing Administrator: John Koprowski, Professor and Director, SNRE

Managing Administrator's Signature:



Date: 9 October 2019