

## Cover Sheet: Request 14493

### Gateway to Agroecology

#### Info

Process	Certificate New Ugrad/Pro
Status	Pending at PV - University Curriculum Committee (UCC)
Submitter	Sukhwinder Bali sukhwinder.bali@ufl.edu
Created	12/2/2019 10:19:07 AM
Updated	10/22/2020 2:14:55 PM
Description of request	<p>We already submit similar request 2 years ago on 8/9/2017 and was submitted by Theresa Martin.</p> <p>We would like to obtain approval for the new undergraduate certificate called "Gateway to Agroecology" that would offer students with limited science background the opportunity to obtain foundational knowledge required to enter the UF Agroecology MS Concentration.</p>

#### Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Agronomy 60080000	Diane Rowland		12/3/2019
Approval for SWS 3022.pdf					12/3/2019
College	Approved	CALS - College of Agricultural and Life Sciences	Joel H Brendemuhl	Approved by CALS CC.	12/20/2019
No document changes					
Office of Institutional Planning and Research	Commented	PV - Office of Institutional Planning and Research	Cathy Lebo	UF is approved for grad work only for CIP 01.1102. Since students will already have a Bachelor's degree, is this a graduate certificate? If it is undergraduate, then please change CIP to 01.1201 Soil Science and Agronomy, General, which is approved for the Bachelor's level.	6/3/2020
No document changes					
Office of Institutional Planning and Research	Approved	PV - Office of Institutional Planning and Research	Cathy Lebo		7/15/2020
GatewayCert_RevisedCurriculum.pdf					7/15/2020
Approval for PLS 3004C.pdf					7/15/2020
Associate Provost for Undergraduate Affairs	Approved	PV - Associate Provost for Undergraduate Affairs	Casey Griffith		9/16/2020
No document changes					
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			9/16/2020
No document changes					
Office of the Registrar					
No document changes					
OIPR Notified					
No document changes					

Step	Status	Group	User	Comment	Updated
Student Academic Support System					
No document changes					
Catalog					
No document changes					
Academic Assessment Committee Notified					
No document changes					
College Notified					
No document changes					

# Certificate|New for request 14493

## Info

**Request:** Gateway to Agroecology

**Description of request:** We already submit similar request 2 years ago on 8/9/2017 and was submitted by Theresa Martin.

We would like to obtain approval for the new undergraduate certificate called "Gateway to Agroecology" that would offer students with limited science background the opportunity to obtain foundational knowledge required to enter the UF Agroecology MS Concentration.

**Submitter:** Sukhwinder Bali sukhwinder.bali@ufl.edu

**Created:** 10/22/2020 2:28:26 PM

**Form version:** 4

## Responses

**Certificate Name** Gateway to Agroecology

**Transcript Title** Gateway to Agroecology

**Credits** 9

**Level** Baccalaureate

**CIP Code** 01.1201

**Degree Program** Agronomy

**Effective Term** Summer

**Effective Year** 2020

**Certificate Description** The Gateway to Agroecology certificate (9 credit hours) offers students with limited science background the opportunity to obtain foundational knowledge required to enter the UF Agroecology MS Concentration. Completion of gateway certificate does not ensure admission to UF Agroecology MS Concentration.

**Requirements for Admission** Students must hold a bachelor's degree from an accredited institution

**Requirements for Completion** completion of required course work (9 credits)

Two core courses and one elective course

Core Courses

PLS 3004C (3) Principles of Plant Sciences (Prerequisites of BOT2010C or BSC 2010 will be waived for certificate participants as needed)

SWS 3022 (3) Introduction to Soils in the Environment

Electives

Students will choose one additional 3-hour course based on the department they wish to join (AGR, SWS, ABE, and ENY/NEM all participate in the Agroecology Program).

**Rationale and Place in Curriculum** An increasing number of students are expressing interest in continuing their education by pursuing an MS in Agroecology. However, many of these students do not currently hold a degree in a field that would properly prepare them for an Agroecology MS curriculum. This certificate will provide the appropriate courses for these students to transition to our MS Agroecology program, while also generating additional off-book revenue for the department. Furthermore, as Agroecology is an inherently interdisciplinary field with a global perspective, students with diverse educational backgrounds represent an overlooked but potentially highly contributory demographic.

**Student Learning Outcomes** Student Learning Objectives:

PLS 3004C SLO's

1. Apply the theoretical knowledge covered in the course to production situations and make scientifically sound recommendations.
2. Formulate hypotheses about the processes that impact plant growth and develop and propose experiments that could be developed to test hypotheses based on the scientific method.
3. Communicate in both oral and written forms about key scientific concepts related to plant anatomy, plant genetics, plant physiology, soils and crop production practices to different audiences to inform them about issues of concern related to agricultural production.
4. Assess future agricultural production needs and opportunities to identify potential career paths in the agricultural sciences.

Assessment

1. Four exams consisting of multiple choice, short answer, and essay questions (100 points each), 5 group projects exploring various production systems and scientific research methodologies (100 points each), 5 in-class activities that require students to think critically about current research topics in plant sciences and develop solutions to real-world issues (20 points each)
2. 5 group projects exploring various production systems and scientific research methodologies (100 points each). Students are asked to design research projects or educational programs for each project.
3. Four exams containing detailed essay questions (100 points each), 5 group projects exploring various production systems and scientific research methodologies (100 points each). Each group project includes communicating their project concept to the course via poster presentations, in-class verbal presentations, or written proposals.
4. 5 in-class activities that require students to think critically about current research topics in plant sciences and develop solutions to real-world issues (20 points each), 5 group projects exploring various production systems and scientific research methodologies (100 points each)

#### SWS 3022 SLO's

1. Content: Students demonstrate competence in the terminology, concepts, and methodologies used within the discipline
2. Communication: Students communicate knowledge, ideas, and reasoning clearly and effectively in written and oral forms appropriate to the discipline.
3. Critical thinking: Students analyze information carefully and logically from multiple perspectives using discipline-specific methods and develop reasoned solutions to problems.

#### Assessment:

1. Content will be tested using three objective exams, eight multiple choice and True/False quizzes, and 4 written homework assignments incorporating fundamental concept knowledge and computations relevant to course material
2. Communication will occur through discussion during assigned meeting times, web-based discussion posts, and short answer as well as computation-based homework assignments related to soil processes
3. Critical thinking will be assessed through computation, analysis, and application of data/results to issues related to soil management

**Institute of Food and Agricultural Sciences**

Hall

Agricultural and Biological Engineering Department

Gainesville, FL 32611-0570

352-392-1864

352-392-4092Fax

Website: [www.abe.ufl.edu](http://www.abe.ufl.edu)

E-mail: [ABEinfo@ufl.edu](mailto:ABEinfo@ufl.edu)

Frazier Rogers

PO Box110570

-

October 21, 2020

Dear Dr. Estrada,

This letter confirms knowledge of ABE 3000C being included as an elective in the Gateway to Agroecology certificate recognizing that this course will soon have an EGN2020C prerequisite.

Sincerely,

Kati Migliaccio, PhD PE

Professor and Chair, [klwhite@ufl.edu](mailto:klwhite@ufl.edu)



RE: Approval for PLS 3004C Course to "Gateway to Agroecology" certificate



Rowland,Diane L  
To: Bali,Sukhwinder Kaur  
Cc: Estrada,James

Retention Policy | Inbox UF (3 years)  
You replied to this message on 7/15/2020 10:24 AM.

Expires 7/15/2023

Reply Reply All Forward ...

Wed 7/15/2020 9:51 AM

I approve.  
Diane Rowland



AGRONOMY  
DEPARTMENT

Diane Rowland, Ph.D. | Professor and Chair | UF/IFAS Agronomy Department  
3105A McCarty B, Box 110500 Gainesville, FL 32611 | 352-273-3408 | Fax: 352-392-1840 | [drowland@ufl.edu](mailto:drowland@ufl.edu)

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**From:** Bali,Sukhwinder Kaur <[sukhwinder.bali@ufl.edu](mailto:sukhwinder.bali@ufl.edu)>  
**Sent:** Wednesday, July 15, 2020 9:26 AM  
**To:** Rowland,Diane L <[drowland@ufl.edu](mailto:drowland@ufl.edu)>  
**Cc:** Estrada,James <[estrada@ufl.edu](mailto:estrada@ufl.edu)>  
**Subject:** Approval for SWS3022 Course to "Gateway to Agroecology" certificate

Dr. Rowland,

My name is Sukhwinder Bali, Agroecology Program Liaison from Department of Agronomy. We are establishing an undergraduate certificate called "Gateway to Agroecology" and offers students with limited science background the opportunity to obtain foundational knowledge required to enter the UF Agroecology MS Concentration. This certificate will only have 2 core courses. we want to include PLS 3004C (Principles of Plant Science Letter Graded) as a core course.

Could you provide your approval for the use of this course please?

Thanks,  
Sukhwinder Bali  
Agroecology Program Liaison | Agronomy  
G052 McCarty D  
PO Box 110500  
[Gainesville, FL 32611](http://Gainesville.FL.32611)

Re: Approval for SWS3022 Course to "Gateway to Agroecology" certificate



Whiles,Matthew R  
To: Bali,Sukhwinder Kaur

Retention Policy | Inbox UF (3 years)

You responded on Monday, December 2, 2019 12:11 PM.

Expires 12/1/2022



Mon 12/2/2019 12:05 PM

Hey Sukhwinder -

Yes - I approve of the use of SWS3022 as a core course.

Thanks.

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**From:** Bali,Sukhwinder Kaur  
**Sent:** Monday, December 2, 2019 10:42 AM  
**To:** Whiles,Matthew R  
**Subject:** Approval for SWS3022 Course to "Gateway to Agroecology" certificate

Dr. Whiles,

My name is Sukhwinder Bali, Agroecology Program Liaison from Department of Agronomy. We are establishing an undergraduate certificate called "Gateway to Agroecology" and offers students with limited science background the opportunity to obtain foundational knowledge required to enter the UF Agroecology MS Concentration. This certificate will only have 2 core courses. we want to include SWS3022 (Introduction to Soils in the Environment) as a core course.

Could you provide your approval for the use of this course please?

Thanks,  
Sukhwinder Bali



# CALS Curriculum Committee Submission Checklist

**NOTE: This checklist must be included with all course and certificate submissions.**

The checklist below is intended to facilitate course and certificate submissions to the University of Florida Academic Approval Tracking System (<https://approval.ufl.edu/>). The checklist consists of the most common items that can cause a submission to require changes or be recycled. Contrary to information provided on the UF approval site, the CALS Curriculum Committee requires a syllabus be submitted with each new course or course modification request. Please note that submitters are encouraged to attend the CALS CC meeting at which their item is being reviewed. This allows the submitter to answer any potential questions that may arise that could cause the item to not be approved. Also, be aware that when completing the UCC form the section Description of Request is asking for a brief statement about what you are doing. This is **not** the place for a course description. A statement such as “Proposal of a new undergraduate course” is all that is needed. Please do not submit documents in pdf format. All documents should be submitted in Word to facilitate editing on our end if necessary.

**CHECKLIST: PLEASE INITIAL OR MARK N/A FOR EACH STATEMENT TO INDICATE YOUR COMPLIANCE.**

It is required when making a submission that you consult your department’s representative to the CALS CC. A list of current members can be found on the committee site located at: <https://cals.ufl.edu/faculty-staff/committees/>.

You **MUST** comply with the CALS Syllabus Policy, including items 1 through 8 and all standard syllabus statements. This document can be viewed at the committee site(<https://cals.ufl.edu/faculty-staff/committees/>) by clicking on the Curriculum Committee – Information & Documents heading and scrolling down to Forms, Checklists, and Other documents. The other items included here are all very helpful when making a curriculum submission. Some will be mentioned in other checklist items below.

Joint course submissions must include both graduate and undergraduate syllabuses and a separate statement outlining the substantial (more than one) differences in assignments between the two courses. These assignments must account for at least a 15% difference in graded material between the two levels. If this is a new course submission both courses must be submitted for approval simultaneously.

The course description on the UCC form and in the syllabus must match. Any other information you wish to include needs to be under a different heading such as background or additional information.

The course learning objectives must be consistent with Bloom’s taxonomy. Please see the following link at the CALS Curriculum site. ([https://cals.ufl.edu/content/PDF/Faculty\\_Staff/cals-course-objectives.pdf](https://cals.ufl.edu/content/PDF/Faculty_Staff/cals-course-objectives.pdf) ). Do not use the words demonstrate or understand when listing learning objectives.

The course schedule should be concise and include the appropriate number of weeks in the semester.

☑ All graduate course submissions must include a reading list if a textbook is not required. The reading list should include at least some current readings (within the last 5 years). All readings do not need to be current.

☑ Outside consultations are required if there is a possibility of the proposed course covering material taught in another department or college on campus. There must be a consult form completed by the chair of the department from who you are seeking the consult. Instructors may provide additional consults. The form can be found at: <https://registrar.ufl.edu/pdf/ucccconsult.pdf>.

☑ Prerequisite courses are required for 3000 and 4000 level courses. This line of the approval form cannot be “none” or left blank. Junior or senior standing is an acceptable option. A phrase such as “a course in basic biology” is not acceptable.

☑ Decimal points must be included in the grading scale if grade cut-offs are based on percentages. While this is not a university policy it is a CALS standard practice to avoid any confusion when final grades for the course are determined.

☑ The attendance and make-up policy in a syllabus cannot contradict the university’s policy. Do not include any additional wording to this policy. A statement and link regarding this is included in the CALS Syllabus Statements. For the approval process the college suggests a less is more view when it comes to this policy.

☑ The most recent version of the CALS Syllabus Statements boiler plate must be included in all syllabuses. This document is included in the CALS Syllabus Policy and can be copied and pasted to the syllabus. Do not use the boilerplate statements from an old syllabus as they are likely to be out of date.

## **Certificates**

If proposing a new undergraduate or graduate level certificate that includes any courses outside of the submitters department a statement regarding any possible impact on those courses needs to be included. An email from the instructor is acceptable. Also, any courses required for the certificate must have permanent prefixes and course numbers. The submission must include intended catalog copy. (Contact Dr. Joel Brendemuhl ([brendj@ufl.edu](mailto:brendj@ufl.edu)) for further instruction)


## Certificate Of Completion

Envelope Id: DF07CF426E654DA98953D92B4B427994	Status: Completed
Subject: Please DocuSign: CALS CC Checklist - Updated 10-1-2020.pdf	
Source Envelope:	
Document Pages: 2	Signatures: 0
Certificate Pages: 5	Initials: 12
AutoNav: Enabled	Envelope Originator:
Envelopeld Stamping: Enabled	Romain Gloaguen
Time Zone: (UTC-05:00) Eastern Time (US & Canada)	971 Elmore Drive, Rm 102
	PO Box 115250
	Gainesville, FL 32611
	romain.gloaguen@ufl.edu
	IP Address: 128.227.107.49

## Record Tracking

Status: Original	Holder: Romain Gloaguen	Location: DocuSign
10/16/2020 3:44:00 PM	romain.gloaguen@ufl.edu	

## Signer Events

Signer Events	Signature	Timestamp
James Estrada estradaej@ufl.edu University of Florida Security Level: Email, Account Authentication (None)	  Signature Adoption: Pre-selected Style Using IP Address: 174.227.6.232 Signed using mobile	Sent: 10/16/2020 3:46:21 PM Viewed: 10/17/2020 10:41:45 AM Signed: 10/17/2020 10:42:46 AM

**Electronic Record and Signature Disclosure:**  
Accepted: 9/7/2018 9:52:33 AM  
ID: 83bf8bb8-3394-48b1-b720-88cbb9a9d98f

## In Person Signer Events

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## Editor Delivery Events

Status

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## Agent Delivery Events

Status

Timestamp

## Intermediary Delivery Events

Status

Timestamp

## Certified Delivery Events

Status

Timestamp

## Carbon Copy Events

Status

Timestamp

Sukhwinder Bali  
sukhwinder.bali@ufl.edu  
University of Florida  
Security Level: Email, Account Authentication (None)

**COPIED**

Sent: 10/16/2020 3:46:21 PM  
Viewed: 10/16/2020 3:48:31 PM

**Electronic Record and Signature Disclosure:**  
Not Offered via DocuSign

## Witness Events

Signature

Timestamp

## Notary Events

Signature

Timestamp

## Envelope Summary Events

Status

Timestamps

Envelope Sent	Hashed/Encrypted	10/16/2020 3:46:21 PM
Certified Delivered	Security Checked	10/17/2020 10:41:45 AM
Signing Complete	Security Checked	10/17/2020 10:42:46 AM

<b>Envelope Summary Events</b>	<b>Status</b>	<b>Timestamps</b>
Completed	Security Checked	10/17/2020 10:42:46 AM
<b>Payment Events</b>	<b>Status</b>	<b>Timestamps</b>
<b>Electronic Record and Signature Disclosure</b>		

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From time to time, the University of Florida (we, us, our, or UF) may be required by law to provide you certain written notices or disclosures and may also choose to provide you with agreements, statements, authorizations, acknowledgments and other documents (collectively, “Documents”). Described below are the terms and conditions for providing such Documents electronically through the UFDocuSign electronic signing system. This supplements all other agreements you have with UF; however, in the case of any inconsistency, the terms herein shall control as applied to your consent to receive and sign Documents electronically through UFDocuSign. Please read the information below carefully and thoroughly, and if you can access this information electronically to your satisfaction and agree to these terms and conditions, please confirm your agreement by clicking the ‘I agree’ button at the bottom of this document. If you are agreeing on behalf of a business entity, you also agree that you have the requisite authority to consent to this Disclosure and Consent to Use Electronic Records and Signatures on behalf of the entity.

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- ii. send us an e-mail to UF-DocuSign@ufl.edu and in the body of such request state your

e-mail, full name, US Postal Address, and telephone number. We do not need any other information from you to withdraw consent.

**How to contact UF**

You may contact us to let us know of changes to your electronic contact information, to request paper copies of certain information from us, and to withdraw your prior consent to receive Documents electronically as follows:

- To contact us by email send messages to: UF-DocuSign@ufl.edu
- To contact us by paper mail, please send correspondence to:

University of Florida Information Technology  
Attn: UFDocuSign Service  
P.O. Box 113359  
Gainesville, FL 32611-3359

**To advise UF of your new e-mail address**

You agree to promptly update us regarding any change in your email address so that we may send Documents to you electronically, as needed. To let us know of a change in your e-mail address, you must send an email message to us at UF-DocuSign@ufl.edu and in the body of such request state: your previous e-mail address, your new e-mail address. You also agree to promptly update us regarding any change to your other contact information in the same manner described above.

In addition, you must notify UF to arrange for your new email address to be reflected in your UFDocuSign account by following the process for changing e-mail in the UFDocuSign system.

**Required hardware and software**

Operating Systems:	Windows® 2000, Windows® XP, Windows Vista®; Mac OS® X
Browsers:	Final release versions of Internet Explorer® 6.0 or above (Windows only); Mozilla Firefox 2.0 or above (Windows and Mac); Safari™ 3.0 or above (Mac only)
PDF Reader:	Acrobat® or similar software may be required to view and print PDF files
Screen Resolution:	800 x 600 minimum
Enabled Security Settings:	Allow per session cookies

These minimum requirements are subject to change. If these requirements change, you will be asked to re-accept the disclosure. Pre-release (e.g. beta) versions of operating systems and browsers are not supported.

**Acknowledging your access and consent to receive Documents electronically**

To confirm to us that you can access this information electronically, which will be similar to other electronic Documents that we will provide to you, please verify that you were able to read

this DISCLOSURE AND CONSENT TO USE ELECTRONIC DOCUMENTS AND SIGNATURES and that you also were able to print on paper or electronically save this page for your future reference and access or that you were able to e-mail this DISCLOSURE AND CONSENT TO USE ELECTRONIC DOCUMENTS AND SIGNATURES to an address where you will be able to print on paper or save it for your future reference and access.

Further, if you consent to receiving notices and disclosures exclusively in electronic format on the terms and conditions described above, please let us know by clicking the 'I agree' button below.

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- I can print on paper the DISCLOSURE AND CONSENT TO USE ELECTRONIC DOCUMENTS AND SIGNATURES document or save or send it to a place where I can print it, for future reference and access; and
- I agree to the terms and conditions in this DISCLOSURE AND CONSENT TO USE ELECTRONIC DOCUMENTS AND SIGNATURES document; and
- Until or unless I notify UF as described above, I consent to receive exclusively through electronic means all Documents during the course of my relationship with UF under the terms and conditions set forth in this DISCLOSURE AND CONSENT TO USE ELECTRONIC DOCUMENTS AND SIGNATURES.

# **GATEWAY TO AGROECOLOGY CERTIFICATE**

The Gateway to Agroecology certificate offers students with no, or limited science background the opportunity to obtain foundational knowledge required to enter the UF Agroecology MS Concentration. Completion of this certificate does not ensure acceptance into the Agroecology MS Concentration. Admission decisions will be based on departmental requirements and discretion.

## **ABOUT THIS PROGRAM**

**College :** College of Agricultural and Life Sciences

**Credits :** 9

Certificate must contain six required credits, and one additional 3-hour course based on the department they wish to join .

**DEPARTMENT INFORMATION :** <https://agronomy.ifas.ufl.edu/>

Students must hold a bachelor's degree from an accredited institution may enroll.

## **REQUIRED COURSES**

*1. Required Core Courses. All courses are letter-graded (6 credits).*

<b>Course Number</b>	<b>Course Title</b>	<b>Credit Hours</b>
PLS 3004C	Principles of Plant Science Letter Graded	3
SWS 3022	Introduction to Soils in the Environment	3

*2. Choose one elective based on department you wish to join. All courses are letter-graded (3 credits).*

<b>Course Number</b>	<b>Course Title</b>	<b>Credit Hours</b>
ENY 3005 + L	Principles of Entomology + Lab	2+1
SWS 4116	Environmental Nutrient Management	3
AGR 4212	Alternative Cropping Systems	3
ABE 3000C	Application in Biological Engineering	3
SWS 4207	Sustainable Agricultural and Urban Land Management	3
SWS 4231C	Soil, Water and Land Use	3
NEM 3002	Principles of Nematology	3
AGR 4932	Tropical Cropping Systems	3



**Proposed curriculum for the Gateway to Agroecology certificate**

**1. Required Core Courses. All courses are letter-graded (6 credits).**

Course Number	Course Title	Credit Hours	Semester Offered	Pre-requisites
PLS 3004C	Principles of Plant Science Letter Graded	3	All	BOT 2010C or 2010
WSS 3022	Introduction to Soils in the Environment	3	All	Gen Ed P (Physical Science)

**2. Choose one elective based on department you wish to join. All courses are letter-graded (3 credits).**

Course Number	Course Title	Credit Hours	Semester Offered	Pre-requisites
PLS 3005 + L	Principles of Entomology + Lab	2+1	All	Gen Ed B (Biological Science)
WSS 4116	Environmental Nutrient Management	3	Fall + Spring	SWS 302
WSS 4212	Alternative Cropping Systems	3	Spring	PLS 3004
WSS 3000C	Application in Biological Engineering	3	Spring	EGN 2020
WSS 4207	Sustainable Agricultural and Urban Land Management	3	Fall	SWS 302
WSS 4231C	Soil, Water and Land Use	3	Fall	Junior standing
WSS 3002	Principles of Nematology	3	Spring	Gen Ed B (Biological Science)
WSS 4932	Tropical Cropping Systems	3	Fall	Junior standing



## Proposed curriculum for the Gateway to Agroecology certificate

### **1. Required Core Courses. All courses are letter-graded (6 credits).**

Course Number	Course Title	Credit Hours	Semester Offered	Pre-requisites
PLS 3004C	Principles of Plant Science Letter Graded	3	Online Summer B	None
SWS 3022	Introduction to Soils in the Environment	3	All	None

### **2. Choose one elective based on what major you are targeting. All courses are letter-graded (3 credits).**

Course Number	Course Title	Credit Hours	Semester Offered	Pre-requisites
ENY 3005 + L	Principles of Entomology + Lab	2+1	All	
SWS 4116	Environmental Nutrient Management	3	Fall + Spring	SWS 3022
AGR 4212	Alternative Cropping Systems	3	Spring	PLS 3004C
ABE 3000C	Application in Biological Engineering	3	Spring	Bio I
SWS 4207	Sustainable Agricultural and Urban Land Management	3	Fall	SWS 3022
SWS 4231C	Soil, Water and Land Use	3	Fall	None
NEM 3002	Principles of Nematology	3	Spring	None
AGR 4932	Tropical Cropping Systems	3	Fall	None

October 9, 2020

Dr. Sukhwinder Bali  
Agroecology Program Liaison  
Department of Agronomy  
University of Florida  
Gainesville, FL 32611

Dear Dr. Bali,

This letter is to express the support of the Soil and Water Sciences Department for the inclusion of SWS 3022 (Introduction to Soils in the Environment) as a core course and SWS 4116 (Environmental Nutrient Management), SWS 4207 (Sustainable Agricultural and Urban Land Management), and SWS 4231C (Soil, Water and Land Use) as electives in the Gateway to Agroecology undergraduate certificate program. These courses seem quite appropriate for this new program.

Sincerely,

Dr. Matt R. Whiles  
Chair and Professor

†Soil and Water Sciences Department  
Institute of Food and Agricultural Sciences