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| For Academic Affairs and Research Use Only | |
| CIP Code: |  |
| Degree Code: |  |

**New Course Proposal Form**

**[XX] Undergraduate Curriculum Council**

**[] Graduate Council**

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| **[X] New Course or []Experimental Course (1-time offering) (Check one box)** |

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

Email completed proposals to [curriculum@astate.edu](mailto:curriculum@astate.edu) for inclusion in curriculum committee agenda.

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| J Kim Pittcock 3/25/2019 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Donald Kennedy 3/25/2019 **Department Chair:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (If applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| Timothy Burcham 3/25/2019 **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **General Education Committee Chair (If applicable)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |

1. Contact Person (Name, Email Address, Phone Number)

Steven Green, [sgreen@astate.edu](mailto:sgreen@astate.edu), x-3463

2. Proposed Starting Term and Bulletin Year

Summer 2019

3. Proposed Course Prefix and Number (Confirm that number chosen has not been used before. For variable credit courses, indicate variable range. *Proposed number for experimental course is 9*. )

PSSC 4723

4. Course Title – if title is more than 30 characters (including spaces), provide short title to be used on transcripts. Title cannot have any symbols (e.g. slash, colon, semi-colon, apostrophe, dash, and parenthesis). Please indicate if this course will have variable titles (e.g. independent study, thesis, special topics).

Agroecological Systems

5. Brief course description (40 words or fewer) as it should appear in the bulletin.

Field-based course to develop a deeper conceptual and analytical framework for understanding agricultural ecosystems of the region. Students will work in teams and visit numerous working farms and agricultural enterprises in their quest to understand agricultural system sustainability.

6. Prerequisites and major restrictions. (Indicate all prerequisites. If this course is restricted to a specific major, which major. If a student does not have the prerequisites or does not have the appropriate major, the student will not be allowed to register).

1. **YES** Are there any prerequisites? 
   1. If yes, which ones?

AGEC 1003, ANSC 1613, PSSC 2813, PSSC 1303, AGST 2003

Why or why not?

Students must have a basic understanding of all aspects of agriculture in order to integrate and think critically about the farms being visited.

1. **YES** Is this course restricted to a specific major?
   1. If yes, which major? Agricultural Business, Agricultural Studies, Animal Science, or Plant and Soil Science

7. Course frequency(e.g. Fall, Spring, Summer). *Not applicable to Graduate courses.*

Summer

8. Will this course be lecture only, lab only, lecture and lab, activity, dissertation, experiential learning, independent study, internship, performance, practicum, recitation, seminar, special problems, special topics, studio, student exchange, occupational learning credit, or course for fee purpose only (e.g. an exam)? Please choose one.

Experiential learning

9. What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental, or other [please elaborate])

standard letter

10. **YES** Is this course dual listed (undergraduate/graduate)?

11. **NO** Is this course cross listed?

*(If it is, all course entries must be identical including course descriptions. Submit appropriate documentation for requested changes. It is important to check the course description of an existing course when adding a new cross listed course.)*

**11.1** – If yes, please list the prefix and course number of cross listed course.

Enter text...

**11.2** – **Yes / No** Are these courses offered for equivalent credit?

Please explain. Enter text...

12. **NO** Is this course in support of a new program?

a. If yes, what program?

Enter text...

13. **NO** Does this course replace a course being deleted?

a. If yes, what course?

Enter text...

14. **NO** Will this course be equivalent to a deleted course?

a. If yes, which course?

Enter text...

15. **YES** Has it been confirmed that this course number is available for use? (confirmed by Meredith McFadden)

*If no: Contact Registrar’s Office for assistance.*

16. **NO** Does this course affect another program?

If yes, provide confirmation of acceptance/approval of changes from the Dean, Department Head, and/or Program Director whose area this affects.

Enter text...

**Course Details**

17. Outline (The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.) Summer term – students are on a one weeklong tour visiting various agricultural operations in the Mid-South. Term paper is due after the tour, prior to the end of term.

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| **Unit** | **Topic of Discussion** | **Major Assignments** |
| Unit 1 | Methods of ecosystem analysis | Preliminary readings |
| Unit 2 | Components of sustainable agriculture |  |
| Unit 3 | Row crop agroecosystems | Reflection paper |
| Unit 4 | Animal agroecosystems |  |
| Unit 5 | Alternative farming systems | Oral presentation |

18. Special features (e.g. labs, exhibits, site visitations, etc.)

This course will include visits to numerous (14+) farms and agricultural enterprises in the region. This course will rely heavily on team projects, including the major presentation.

19. Department staffing and classroom/lab resources

Enter text...

1. Will this require additional faculty, supplies, etc.?

No.

20. **NO** Does this course require course fees?

*If yes: please attach the New Program Tuition and Fees form, which is available from the UCC website.*

**Course Justification**

21. Justification for course being included in program. Must include:

a. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

With a global population approaching 8 billion people and rising, the need to produce more food on existing agricultural land is imperative. Producing more food in a sustainable manner that does not induce more harm to the global environment is essential. Students need first hand, practical knowledge of agricultural practices that are being implemented by successful, ecologically minded farmers in order to support and encourage these progressive practices. This knowledge must be gained in the field as opposed to out of a book.

Upon completion of this course, students will have:

1. Defined and described the properties of agroecosystems.
2. Experienced an investigative framework for analyzing the origin, impact and sustainability of agricultural practices used on farms within the region.
3. Gained experience in defining, assessing and interpreting factors that contribute to greater sustainability of agroecosystems.
4. Considered how worldview affects people’s (their own and others) views of agroecosystems and of sustainability.

b. How does the course fit with the mission established by the department for the curriculum? If course is mandated by an accrediting or certifying agency, include the directive.

This course will allow students to synthesize what they have learned in their core courses to solve real world problems faced by the agricultural industry. This course gives students first hand experience with multiple farmers conducting agriculture in the region.

c. Student population served.

This course serves upper level undergraduate students in the agricultural sciences.

d. Rationale for the level of the course (lower, upper, or graduate).

This is an upper level, undergraduate course. Students will need to synthesize information gained from their previous agriculture courses and other life experiences.

**Assessment**

**Relationship with Current Program-Level Assessment Process**

22. What is/are the intended program-level learning outcome/s for students enrolled in this course? Where will this course fit into an already existing program assessment process?

This course specifically addresses program SLOs to 1) demonstrate both verbal and written communication skills and 2) develop advanced skills in critical thinking and analysis applied to solve relevant problems. This course can be taken as an elective after having taken the five (5) introductory level core courses in agriculture. This course will allow students to build on the knowledge they have already gained in their introductory agriculture courses.

23. Considering the indicated program-level learning outcome/s (from question #23), please fill out the following table to show how and where this course fits into the program’s continuous improvement assessment process.

*For further assistance, please see the ‘Expanded Instructions’ document available on the UCC - Forms website for guidance, or contact the Office of Assessment at 870-972-2989.*

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| **Program-Level Outcome 1 (from question #23)** | Demonstrate both verbal and written communication skills. |
| Assessment Measure | Communications project in student’s specific major/program. |
| Assessment  Timetable | Even years. |
| Who is responsible for assessing and reporting on the results? | Instructor of record with assistance from college assessment coordinator. |

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| **Program-Level Outcome 2 (from question #23)** | Develop advanced skills in critical thinking and analysis applied to solve relevant problems. |
| Assessment Measure | Data analysis project in student’s major/program. |
| Assessment  Timetable | Even years. |
| Who is responsible for assessing and reporting on the results? | Instructor of record with assistance from college assessment coordinator. |

*(Repeat if this new course will support additional program-level outcomes)*

**Course-Level Outcomes**

24. What are the course-level outcomes for students enrolled in this course and the associated assessment measures?

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| **Outcome 1** | Students will be able to define and describe the properties of agroecosystems. |
| Which learning activities are responsible for this outcome? | Farm visits and interviews with farmers.  End of day debriefing sessions. |
| Assessment Measure | Daily reflection analysis with rubric |

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| **Outcome 2** | Students will be able to assess and interpret factors that contribute to greater sustainability of agroecosystems. |
| Which learning activities are responsible for this outcome? | Farm visits and interviews with farmers.  Peer discussions.  Group presentation. |
| Assessment Measure | Group presentation graded with rubric. |

*(Repeat if needed for additional outcomes)*

**Bulletin Changes**

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| **Instructions** |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Follow the following guidelines for indicating necessary changes.**  **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.**  - Deleted courses/credit hours should be marked with a red strike-through (~~red strikethrough~~)  - New credit hours and text changes should be listed in blue using enlarged font (blue using enlarged font).  - Any new courses should be listed in blue bold italics using enlarged font (***blue bold italics using enlarged font***)  *You can easily apply any of these changes by selecting the example text in the instructions above, double-clicking the ‘format painter’ icon 🡪 , and selecting the text you would like to apply the change to.*  *Please visit* [*https://youtu.be/yjdL2n4lZm4*](https://youtu.be/yjdL2n4lZm4) *for more detailed instructions.* |

Plant and Soil Science (PSSC)

PSSC 1301. Plant Science Laboratory  Introduction to agronomic and horticultural concepts related to crop anatomy, growth and development, physiology, and pest identification and management. Spring.

PSSC 1303. Introduction to Plant Science  Agronomic and horticultural cropping systems including crop growth and development, crop physiology, crop ecology, environmental considerations, and production and protection practices. Fall, Spring.

PSSC 2811. Soils Laboratory Corequisite or prerequisite, PSSC 2813. Fall.

PSSC 2813. Soils Origin, classification, physical and chemical properties of soil and environmental considerations. Prerequisite, CHEM 1013 and CHEM 1011 or CHEM 1043 and CHEM 1041. Fall, Spring.

PSSC 3313. Plant Disease Management Introduction to management of plant diseases. Major concepts include genetic, cultural, and biological controls as related to management of plant systems. Self study course utilizing computer technology, seminars, and laboratory exercises. Prerequisites, PSSC 1303. Spring.

PSSC 3323. Weeds and Weed Control  Identification and pest management of weeds in agronomic, horticultural, and urban systems. Survey of herbicides, their chemistry, toxicology, modes of action, uses, and environmental impact. Lecture two hours and laboratory two hours per week. Prerequisites, CHEM 1013 or CHEM 1043; and PSSC 1303. Spring.

PSSC 3333. Plant Breeding   History of plant improvement, methods of plant breeding, and the basic application of these methods to various agronomic and horticultural crops. Fall, odd.

PSSC 3802. Pasture and Forage Crops Introduction to important forage and pasture crops in the mid south region. Discussions will include cropping systems, plant growth and development, physiology, and environmental considerations. Prerequisite, PSSC 1303. Fall, even.

PSSC 4313. Plant Growth and Development  Auxins, gibberellins, and various other regulators of plant growth, also phenomena such as flowering and dormancy. Prerequisites, CHEM 1052, HORT 2253 and PSSC 1303. Fall.

PSSC 4343. Seed Production, Processing and Analysis Methods of producing quality seeds and seed stocks, processing methods, and techniques of seed analysis and grading. Prerequisite, PSSC 1303. Fall, odd. Dual-listed with PSSC 5343.

PSSC 4513. Plant Biotechnology Course materials will address the why and how of plant gene transfer plus the issues involved in making those plants part of the agricultural landscape. Dual listed as PSSC 5513. Prerequisite: AGRI 2213 or BIOL 3013 or permission of instructor. Spring.

PSSC 4713. Soil Quality Assessment and Interpretation A study of the indicators of soil quality, documentation and measurement of soil quality, interpretations of soil quality, impacts and effects of management of soil quality, and the role of conservation planning in improving soil quality. Prerequisite, PSSC 2813. Fall, even.

PSSC 4723. Agroecological Systems Field-based course to develop a deeper conceptual and analytical framework for understanding agricultural ecosystems of the region. Students will work in teams and visit numerous working farms and agricultural enterprises in their quest to understand agricultural system sustainability. Prerequisites: AGEC 1003, AGST 2003, ANSC 1613, PSSC 1303, PSSC 2813. Summer.

PSSC 4804. Principles of Crop Production Introduction to agronomic cropping systems which includes production systems, concepts related to crop selection and genetics, establishment and management of the crop, and harvest management. Environmental issues related to crop production and sustainability are also evaluated. Prerequisites, PSSC 1303 and PSSC 2813. Fall.