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

**New Course Proposal Form**

**[x ] 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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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Donald Kennedy 1/25/2018 **Department Chair:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (If applicable)** |
| J. Kim Pittcock 1/24/2018 **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| Timothy Burcham 1/25/2018 **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)

**Donald Kennedy**

2. Proposed Starting Term and Bulletin Year

**Starting term: spring 2019; Bulletin year: 2018-2019**

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*. )

**AGRI 3813**

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).

**Agricultural Biosystems I**

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

**Modern irrigation and water conservation technologies for agronomic crops, plant genomics and biotechnologies that impact agricultural production, as well as fundamental concepts of integrated pest management and environmental management. Junior standing or higher. Fall.**

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 / No** Are there any prerequisites? **Yes**
   1. If yes, which ones?

**Junior standing or higher**

Why or why not?

The topics covered in this course will build on foundational knowledge that is contained in introductory courses, which are taken during the student’s freshmen and sophomore years.

1. **Yes / No** Is this course restricted to a specific major? **No**
   1. If yes, which major? Enter text...

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

**Fall**

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.

**lecture**

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 / No** Is this course dual listed (undergraduate/graduate)? **No**

11. **Yes / No** Is this course cross listed? **No**

*(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. **Yes / No** Is this course in support of a new program? **No**

a. If yes, what program?

Enter text...

13. **Yes / No** Does this course replace a course being deleted? **No**

a. If yes, what course?

Enter text...

14. **Yes / No** Will this course be equivalent to a deleted course? **No**

a. If yes, which course?

Enter text...

15. **Yes / No** Has it been confirmed that this course number is available for use? **Yes**

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

16. **Yes / No** Does this course affect another program? **No**

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.)

**Irrigation and Water Cons. Concepts** (22 days total, 13 class periods MWF)

Week 1: Aquifer and Groundwater Basics

Week 2: Water Quality and Quantity Issues in the Lower Mississippi River Basin

Week 3: Irrigation Systems Utilized in the Lower Mississippi River Basin

Week 4: Water Conservation Technologies used in Irrigation (MW)

**Biotechnology and Genomics** (22 days total, 13 class periods MWF)

Week 5: (F) Genes and genomes

Week 6: Biotechnology methods for plant gene transfer

Week 7: Genomics and next generation breeding technologies

Week 8: Traits

Week 9: Safety and regulatory compliance

**Integrated Pest Management** (22 days total, 13 class periods MWF)

Week 10: Introduction-IPM definition and history

Week 11: Control and management tactics in IPM

Week 12: When should IPM be implemented? Sampling and decision-making

Week 13: Case Studies: Cotton and Rice to demonstrate IPM principles

Week 14: (M) Case Studies Vegetables and Urban systems to demonstrate IPM

**Professional Communication** (3 class periods)

Week 14: Preparing for the Interview (WF)

Week 15 (M) Nailing the Interview

Final Exam

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

**none**

19. Department staffing and classroom/lab resources

**current faculty**

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

**No**

20. **Yes / No** Does this course require course fees? **No**

*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)

This course will increase the Ag technological skill level and knowledge base of our students. Our Ag Advisory Committee and industry leaders have identified that our students should possess these skills and knowledge to fulfill industry needs and be competitive in the Ag job market.

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 aligns with our mission to train students for agricultural careers.

c. Student population served.

Undergraduate students majoring in the Agriculture at A-State

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

The course content and rigor is appropriate for upper-level designation. Student must possess fundamental concepts of agriculture (see prerequisite) before enrolling in this course.

**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?

Core PLO-1 Students will be able to demonstrate knowledge of fundamental concepts in agriculture, including agriculture business/economics, animal science, plant and soil science, and statistics.

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)** | Core PLO-1 Students will be able to demonstrate knowledge of fundamental concepts in agriculture, including agriculture business/economics, animal science, plant and soil science, and statistics. |
| Assessment Measure | Pre/post test (with benchmarks) to assess competency level of fundamental knowledge of agriculture… (Core PLO-1). End-of-course survey to obtain student’s opinions regarding their competency level based on the PLO for this course. |
| Assessment  Timetable | Spring even |
| Who is responsible for assessing and reporting on the results? | Instructors of record |

*(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** | To increase students’ knowledge of the methods and applications of plant biotechnology, irrigation systems and pest management in modern world agriculture. |
| Which learning activities are responsible for this outcome? | Lectures, class discussions, and discovery assignments. |
| Assessment Measure | Exams and class discussion participation (an appropriate rubric will be adapted) |

*(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 italicags 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.* |

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**AGED 4473. International Agriculture Study Tour** To develop an awareness and perspective of international agricultural enterprises and educational programs and how world agricultural systems relate to and impact the U. S. agricultural system. Includes a focus on environmental issues related to food and fiber production. Permission of Instructor required. Dual Listed AGED 5473. Spring, even.

**AGED 459V. Special Problems in Agricultural Education** For students of senior standing. Approval of the instructor and dean necessary. Credit of one, two, or three hours as arranged. Fall, Spring, Summer.

**Agriculture (AGRI)**

**AGRI 1213. Making Connections in Agriculture** First semester freshman course centered around the skills and knowledge needed to be a successful ASU Agriculture student, including academic performance, problem solving, critical thinking, self management, university policies, issues, trends, and disciplines in agriculture. Fall.

**AGRI 2213. Genetic Improvement of Plants and Animals** Introduction to agriculturally important plant and animal traits and the methods used to incorporate these into favorable combinations. Fall, Spring.

**AGRI 2243. Feeding the Planet** Emphasizes the historical background, current and future social, political, environmental or economic implications for the use of natural resources for feeding the world population. Demand.

**AGRI 3233. Applied Agricultural Statistics** Collection, tabulation, and analysis of agricultural data, activities of the state and federal crop reporting services. Fall, Spring.

**AGRI 3723. Agricultural Connections, Technical Interpretation and Professional Applications** Exercises to synthesize high quality technical information from multiple sources into different types of professional written and verbal presentations, using problem solving exercises. Analytical skills and interactive discussions are emphasized. Prerequisites, AGEC 1003, ANSC 1613, and PSSC 1303. Prerequisites or corequisites, AGRI 3233 or ECON 2113 or STAT 3233. Fall, Spring.

**AGRI 3813. Agricultural Biosystems I.** Modern irrigation and water conservation technologies for agronomic crops, plant genomics and biotechnologies that impact agricultural production, as well as fundamental concepts of integrated pest management and environmental management. Prerequisite: Junior standing or higher. Fall.

**AGRI 420V. Internships in Agriculture** Provides field based experience in private business, industry or public agencies which will enhance knowledge and skills needed for career advancement, approval of Internship Committee required. Spring, Fall, Summer.

**AGRI 4223. Agriculture and the Environment** This course will explore the complex and varied interrelationships of agriculture and the environment with the ultimate goal of identifying viable procedures to make agricultural programs more sustainable. Spring.

**AGRI 4523. Applied Modern Biotechnology** An introduction to the principles and the applications of modern Biotechnology with emphasis on the applications of recombinant DNA technology to solve environmental and human health problems. The review of major biotechnology companies and bio-products is also included. Prerequisites, BIOL 2013 and 2011, CHEM 1052, BIOL 3013 and 3011 or AGRI 2213 or CHEM 4243 or related courses approved by the instructor. Dual-listed with AGRI 5523. Fall.

**AGRI 4233. Experimental Agricultural Statistics** Fundamental concepts of experimental and statistical methods as applied to agricultural research. Spring, even.

**AGRI 4433. Organic Agriculture Production** Principles and practices of organic production in plant and animal systems including: certification requirements, soil fertility, crop rotation, variety and breed selection, health management strategies, optimizing yield and quality, nutrition and feeding, ethical issues, processing, storage and marketing. Prerequisites, PSSC 1303 and ANSC 1613, or permission of instructor. Dual-listed with AGRI 5433. Spring, odd