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

**New or Modified Course Proposal Form**

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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

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

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Donald Kennedy 2/26/2021 **Department Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (if applicable)** |
| J Kim Pittcock 2/26/2021  **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Director of Assessment (new courses only)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| Mickey A. Latour 2/26/2021 **College Dean** | Alan Utter 3/15/2021  **Vice Chancellor for Academic Affairs** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (if applicable)** |  |

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

John Nowlin, [jnowlin@astate.edu](mailto:jnowlin@astate.edu), 336-907-6592

1. **Proposed starting term and Bulletin year for new course or modification to take effect**

Fall 2021

**Instructions:**

*Please complete all sections unless otherwise noted. For course modifications, sections with a “Modification requested?” prompt need not be completed if the answer is “No.”*

|  |  |  |
| --- | --- | --- |
|  | **Current (Course Modifications Only)** | **Proposed (New or Modified)**  *(Indicate “N/A” if no modification)* |
| **Prefix** | AGST |  |
| **Number\*** | **4501** | **4503** |
| **Title** | **Agricultural Decision Analysis** | **Agricultural Decision Tools and Analysis**  **Ag Decision Tools and Analysis** |
| **Description\*\*** | Hands-on experience with cloud/desktop software, spatial algorithms and image processing of georeferenced data obtained from diverse sources, such as human scouts, ground and equipment sensors, and unmanned aerial systems. Dual listed with AGST 5501. Prerequisite: AGST 3543 with a grade of B or better. Fall | Hands-on experience with cloud/desktop software, spatial algorithms and tools for irrigation system design/management as well as ~~image~~ processing/analyzing/interpreting of georeferenced agricultural data obtained from diverse sources such as human scouts, ground and equipment sensors, and unmanned aerial systems. Dual listed with AGST 550~~1~~3. ~~Prerequisite: AGST 3543~~ ~~with a grade of B or better~~ Prerequisite or Corequisite: AGST 4511. Fall. |

***\**** (Confirm with the Registrar’s Office that number chosen has not been used before and is available for use. For variable credit courses, indicate variable range. *Proposed number for experimental course is 9*. )

\*\*Forty words or fewer as it should appear in the Bulletin.

1. **Proposed prerequisites and major restrictions** **[Modification requested? YES]**

(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?   
      Prerequisite or Corequisite: AGST 4511
   2. Why or why not?

4511 is the preparation course for obtaining the pilot license which a drone operator must have.

1. **Yes / No** Is this course restricted to a specific major?
   1. If yes, which major? No
2. **Proposed course frequency [Modification requested? No]**

(e.g. Fall, Spring, Summer; if irregularly offered, please indicate, “irregular.”) *Not applicable to Graduate courses.*

Enter text...

1. **Proposed course type [Modification requested? No]**

Will this course be lecture only, lab only, lecture and lab, activity (e.g., physical education), dissertation/thesis, capstone, independent study, internship/practicum, seminar, special topics, or studio? Please choose one.

Enter text...

1. **Proposed grade type [Modification requested? No]**

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

Enter text...

1. **Yes** Is this course dual-listed (undergraduate/graduate)? **AGST 550~~1~~3 (being modified along with this course)**
2. **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.)*

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

Enter text...

**b.** – **Yes / No** Can the cross-listed course be used to satisfy the prerequisite or degree requirements this course satisfies?

Enter text...

1. **No** Is this course in support of a new program?

a. If yes, what program?

1. **No** Will this course be a one-to-one equivalent to a deleted course or previous version of this course (please check with the Registrar if unsure)?

a. If yes, which course?

Enter text...

**Course Details**

1. **Proposed outline** **[Modification requested? Yes]**

(The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.)

|  |  |  |
| --- | --- | --- |
| Week | TOPIC – LECT / LAB | ROOM - LECT / LAB |
| 1 | **Class:** Spatial and temporal heterogeneity of soils | AG 301/AG 242 |
| **Lab I :** Soil Salinity Analysis | HMK: |
|  | Soil Salinity |
| 2 | **Class:** Spatial and temporal heterogeneity of soils | AG 301/AG 242 |
| **Lab II :** Variable soil tillage | HMK: |
|  | Variable soil tillage |
| 3 | **Class:** Surface creation using point data | AG 301/AG 242 |
|  | HMK: |
| **Lab II :** Precision yield management-1 | Yield Analysis |
| 4 | **Class:** Surface creation using point data | AG 301/AG 242 |
|  | HMK: |
| **Lab III :** Precision yield management-2 | Yield Analysis |
| 5 | **Class:** Precision weed management | AG 301/AG 242 |
|  | HMK – |
| **Lab IV:** Weed management-1 | Weed Analysis |
| 6 | **Class:** Spatial distribution of rootworms | AG 301/AG 242 |
|  | HMK – |
| **Lab VI :** Rootworms population and soil texture | Rootworms analysis |
| 7 | **Class:** Spread invasive Species | AG 301/AG 242 |
|  | HMK– |
| **Lab VII :** Spread invasive Species analysis | invasive Species analysis |
| 8 | **Class:** Irrigation Tools Introduction and Crop Water Requirements and Irrigation Scheduling | AG 301/AG 242 |
| **Lab I :** CLIMWAT2 and CROPWAT software Case Study I : California San Joaquin Valley | HMK: |
|  | Irrigation Scheduling |
| 9 | **Class:** Surface irrigation In Arkansas | AG 301/AG 242 |
|  | HMK: |
| **Lab II :** Pipe Planner Software | Irrigation design |
| 10 | **Class:** Rice Irrigation Systems | AG 301/AG 242 |
|  | HMK: |
| **Lab III :** Multiple rice inlet application (University of Arkansas) | MIRI design |
| 11 | **Class:** Surface Irrigation Design and Planning | AG 301/AG 242 |
|  | HMK – Surface Irrigation Basin and Furrow |
| **Lab IV:** SURFACE software |  |
| 12 | **Class:** Surface Irrigation System Planning | AG 301/AG 242 |
|  | HMK – Case Study I: |
| **Lab V :** Case Study II : Simonian Farms Fresno California San Joaquin Valley | Mixed Irrigation Planning |
| 13 | **Class:** Irrigation Design and Performance | AG 301/AG 242 |
| **Lab VI :** IRRICAD – Tutorials, Basic, Sprinkler and Drip Irrigation | HMK - Tutorials 1,2 and 3 |
| 14 | **Class:** Farm Irrigation System Planning | AG 301/AG 242 |
| **Lab VII :** Case Study III : Farm Level Irrigation Planning Simonian Farms Fresno California San Joaquin Valley | HMK– Sprinkler and Drip |
|  |  |  |
| 15 | **Class:** Farm Irrigation System Planning | AG 301/AG 242 |
|  | **Lab VIII :** Case Study III : Farm Level Irrigation Planning Simonian Farms Fresno California San Joaquin Valley | HMK– Sprinkler and Drip |

1. **Proposed special features** **[Modification requested? No]**

(e.g. labs, exhibits, site visitations, etc.)

Enter text...

1. **Department staffing and classroom/lab resources**

Enter text...

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

Enter text...

1. **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.*

**Justification**

**Modification Justification (Course Modifications Only)**

1. Justification for Modification(s)

This course modification combines the material from AGST 4022 and 4501 into AGST 4503 Agricultural Decision Tools and Analysis. This change simplifies the two courses into a single three credit course which will fit easier into students’ and instructors’ schedules.

**New Course Justification (New Courses Only)**

1. Justification for course. Must include:

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

Enter text...

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

Enter text...

c. Student population served.

Enter text...

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

Enter text...

**Assessment**

**Assessment Plan Modifications (Course Modifications Only)**

1. **No** Do the proposed modifications result in a change to the assessment plan?

*If yes, please complete the Assessment section of the proposal*

**Relationship with Current Program-Level Assessment Process (Course modifications skip this section unless the answer to #18 is “Yes”)**

1. 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?

Enter text...

1. Considering the indicated program-level learning outcome/s (from question #19), 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.*

|  |  |
| --- | --- |
| **Program-Level Outcome 1 (from question #19)** | Type outcome here. What do you want students to think, know, or do when they have completed the course? |
| Assessment Measure | Please include direct and indirect assessment measure for outcome. |
| Assessment  Timetable | What semesters, and how often, is the outcome assessed? |
| Who is responsible for assessing and reporting on the results? | Who (person, position title, or internal committee) is responsible for assessing, evaluating, and analyzing results, and developing action plans? |

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

**Course-Level Outcomes**

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

|  |  |
| --- | --- |
| **Outcome 1** | Type outcome here. What do you want students to think, know, or do when they have completed the course? |
| Which learning activities are responsible for this outcome? | List learning activities. |
| Assessment Measure | What will be your assessment measure for this outcome? |

*(Repeat if needed for additional outcomes)*

**Bulletin Changes**

|  |
| --- |
| **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. Please include a before (with changed areas highlighted) and after of all affected sections.**  **\*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.** |

This course modification combines the material from AGST 4022 and 4501 into one course, AGST 4503 Agricultural Decision Tools and Analysis. This change simplifies the two courses with one and two credits into a single three credit course which will fit easier into student’s schedules. This modification is being submitted along with mirrored graduate course modifications.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Major in Agricultural Studies**

**Bachelor of Science in Agriculture Emphasis in Agricultural Systems Technology**

A complete 8-semester degree plan is available at [https://www.astate.edu/info/academics/degrees/](http://www.astate.edu/info/academics/degrees/)

|  |  |
| --- | --- |
| **University Requirements:** |  |
| See University General Requirements for Baccalaureate degrees (p. 42) |  |
| **First Year Making Connections Course** | **Sem. Hrs.** |
| AGRI 1213, Making Connections in Agriculture | **3** |
| **General Education Requirements:** | **Sem. Hrs.** |
| See General Education Curriculum for Baccalaureate degrees (p. 78)  **Students with this major must take the following:**  *CHEM 1013 AND 1011, General Chemistry I and Laboratory* ***OR*** *CHEM 1043 and CHEM 1041, Fundamental Concepts of Chemistry and Laboratory*  *BIOL 1003* ***AND*** *BIOL 1001, Biological Science and Laboratory*  *COMS 1203, Oral Communication (Required Departmental Gen. Ed. Option)* | **35** |
| **Agriculture Core Courses:** | **Sem. Hrs.** |
| (See Beginning of Agriculture Section) | **24** |
| **Major Requirements:** | **Sem. Hrs.** |
| See emphasis area below. |  |
| **Emphasis Area (Agricultural Systems Technology):** | **Sem. Hrs** |
| *Select one of the following:*  AGEC 3013, Decision Tools for Agribusiness AGST 3503, Geospatial Data Applications | 3 |
| AGRI 4223, Agriculture and the Environment | 3 |
| AGST 3543, Fundamentals of GIS/GPS | 3 |
| AGST 4003, Modern Irrigation Systems | 3 |
| ~~AGST 4022, Irrigation Technology Tools~~ | ~~2~~ |
| AGST 4503, Agricultural Decision Tools and Analysis | 3 |
| AGST 4511, Unmanned Aircraft Systems | 1 |
| AGST 4543, Understanding Geographic Information Systems | 3 |
| *Select one of the following:*  ~~AGST 4501, Agricultural Decision Analysis~~  **OR**  ~~AGST 4511, Unmanned Aircraft Systems~~ | ~~1~~ |
| AGST 4773, Remote Sensing | 3 |
| AGST 4843, Agricultural Systems Technology Capstone | 3 |

***Pg 107-108***

***2***020-2021 UG bulletin, Pg 430

**Agricultural Systems Technology (AGST)**

**~~AGST 4022. Irrigation Technology Tools~~** ~~Technical tools and software related to irrigation system hydraulic design and management. Dual listed with AGST 5022. Prerequisites: AGST 3543, AGST 4003. Fall.~~

**AGST 450~~1~~3.** **Agricultural Decision Tools and Analysis** Hands-on experience with cloud/desktop software, spatial algorithms and tools for irrigation system design/management as well as ~~image~~ processing/analyzing/interpreting of georeferenced agricultural data obtained from diverse sources such as human scouts, ground and equipment sensors, and unmanned aerial systems. Dual listed with AGST 550~~1~~3. ~~Prerequisite: AGST 3543~~ ~~with a grade of B or better~~ Prerequisite or Corequisite: AGST 4511. Fall.

**AGST 4511. Unmanned Aircraft Systems** Software and mobile applications for designing flight missions~~,~~ and collecting data using unmanned aircraft systems~~, and~~ ~~analyzing/interpreting imagery for agricultural practices~~. Intended to prepare students for the Federal Aviation Administration ~~(FAA)~~ remote pilot license exam. Dual listed with AGST 5511. Prerequisite~~s~~: AGST 3543~~, AGST 4773~~. Fall

**AGST 4543. Understanding Geographic Information Systems** Methods, concepts, software, analysis and modeling of geospatial data using raster and vector data models for human-environment interactions using geographic information systems (GIS). Dual listed with AGST 5543. Prerequisite, AGST 3543 with a grade of B or better. Fall.  
…