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

**Program Modification Form**

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

|  |
| --- |
| **Modification Type: [ ]Admissions, [X]Curricular Sequence, or [ ]Other** |

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | Jacob Manlove | 10/27/2022 |   **Department Curriculum Committee Chair** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **COPE Chair (if applicable)** |
| |  |  | | --- | --- | | Donald Kennedy | 10/27/2022 |   **Department Chair** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Head of Unit (if applicable)** |
| |  |  | | --- | --- | | Jacob Manlove | 10/27/2022 |   **College Curriculum Committee Chair** | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Undergraduate Curriculum Council Chair** |
| |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Director of Assessment** *(only for changes impacting assessment)* | |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **Graduate Curriculum Committee Chair** |
| |  |  | | --- | --- | | Mickey Latour | 10/27/2022 |   **College Dean** | |  |  | | --- | --- | | Alan Utter | 11/15/2022 |   **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, 870-972-3468

1. **Proposed Change** (for undergraduate curricular changes please provide an 8-semester plan (appendix A), if applicable)

Several changes are being proposed:

1. The Agricultural Systems Technology emphasis within the Agricultural Studies program is being renamed to GIS and Precision Agriculture
2. The subject prefix AGST is changed to GIS, throughout the Undergraduate Bulletin (note: this is coordinated with mirrored changes to the graduate course prefixes)
3. This program is moved online.
4. Courses including the phrase Agricultural Systems Technology are changed to GIS and Precision Agriculture, including:
   1. AGST 2003 and AGST 4843
5. Course options which are not available online are removed, and where applicable, replaced with additional elective hours, this includes:
   1. A chemistry option (CHEM 1013/1011 General Chemistry I)
   2. An extra math course (MATH 1033,1054 OR Any MATH course that requires MATH 1023 or MATH 1054)
   3. An environmental option (BIO 3023)
   4. An extra science course (BIO 1503/1501, GEOL 1003/1001, BIO 1503/1501, PHSC 1203/1201, PHYS 1103/1001, OR PHYS 2054)
   5. An extra writing course (ENG 3003, 3013, 3043, 3053, 4703)
6. One of the required Ag. Core courses is now GIS 2003 - Intro to GIS and Precision (formerly named AGST 2003 Intro to Ag. Systems Technology)
7. A specific set of Plant and Soil Science Courses PSSC is now opened to any two upper-level PSSC courses
8. TECH 3803 – Electrical Systems will no longer be required – replaced with additional elective hours
9. An extra communications course was added
10. BCOM 2503 (Business Communication) is being included as an additional option within the extra communication course options
11. Courses with the TECH prefix will no longer be acceptable as electives
12. Courses with the ANSC prefix will now be accepted as electives
13. Other minor editing (moving around items to be in alphanumeric order.)
14. **Effective Date**

Fall 2023

1. **Justification –** *Please provide details as to why this change is necessary.*

The reformulation to a general (i.e., non-emphasis) program better reflects the generality of the current Agricultural Science emphasis.

**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.** |

2022-2023 Bulletin

|  |  |  |  |
| --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | |  | | --- | | Agricultural Studies, Emphasis in ~~Agricultural Systems Technology~~ GIS and Precision Agriculture, BSA | |  |   Return to {$returnto_text} Return to: [Programs by Department](https://catalog.astate.edu/content.php?catoid=3&navoid=77)  A complete 8-semester degree plan is available at <https://www.astate.edu/info/academics/degrees/> | |

**UNIVERSITY REQUIREMENTS:**

See [University General Requirements for Baccalaureate degrees](https://catalog.astate.edu/content.php?catoid=3&navoid=67#university-general-requirements-for-all-baccalaureate-degrees)

**FIRST YEAR MAKING CONNECTIONS COURSE**

* [AGRI 1213 - Making Connections in Agriculture](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**

**GENERAL EDUCATION REQUIREMENTS:**

* See [General Education Curriculum for Baccalaureate Degrees](https://catalog.astate.edu/preview_program.php?catoid=3&poid=447) **Sem. Hrs: 35**

**Students with this major must take the following:**

* [~~CHEM 1013 - General Chemistry I~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**
* [~~CHEM 1011 - General Chemistry I Laboratory~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~1~~**

***~~OR~~***

* [CHEM 1043 - Fundamental Concepts of Chemistry](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [CHEM 1041 - Fundamental Concepts of Chemistry Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **1**
* [BIOL 1003 - Biological Science](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [BIOL 1001 - Biological Science Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **1**
* [GEOG 2613 - Introduction to Geography](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [COMS 1203 - Oral Communication](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3** *(Required Departmental Gen. Ed. Option)*

**AGRICULTURE CORE COURSES:**

(See [Agriculture Core Courses](https://catalog.astate.edu/preview_program.php?catoid=3&poid=458) **Sem. Hrs: 18**)

**Students with this major must take the following:**

* ~~AGST~~ GIS 2003 - Introduction to GIS and Precision Agriculture ~~Agricultural Systems Technology~~ **Sem. Hrs: 3**

**MAJOR REQUIREMENTS:**

See emphasis area below.

**EMPHASIS AREA (AGRICULTURAL SYSTEMS TECHNOLOGY):**

* [AGRI 4223 - Agriculture and the Environment](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [~~AGST~~ GIS 3503 - Geospatial Data Applications](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [~~AGST~~ GIS 3543 - Fundamentals of GIS/GPS](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [~~AGST~~ GIS 4003 - Modern Irrigation Systems](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [~~AGST~~ GIS 4503 - Agricultural Decision Tools and Analysis](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [~~AGST GIS~~ 4511 - Unmanned Aircraft Systems](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **1**
* [~~AGST~~ GIS 4543 - Understanding Geographic Information Systems](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [~~AGST~~ GIS 4773 - Remote Sensing](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [~~AGST~~ GIS 4843 - Agricultural Systems Technology Capstone](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [~~MATH 1033 - Plane Trigonometry~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**

***~~OR~~***

* [~~MATH 1054 - Precalculus Mathematics~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~4~~**

***~~OR~~***

* ~~Any MATH course that requires~~[~~MATH 1023~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77#tt9623)~~or~~[~~MATH 1054~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77#tt7860)~~as a prerequisite~~
* [~~TECH 3803 - Electrical Systems~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**
* Select two upper-level PSSC courses **Sem. Hrs:** **6**
* Upper-level elective in AGEC, AGED, ~~AGST~~ ANSC, AGRI, GEOG, GIS, HORT, or PSSC **Sem. Hrs: ~~10-11~~ 21**

**~~Select one of the following:~~**

* [~~AGEC 3013 - Decision Tools for Agribusiness~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**
* [~~AGST 3503 - Geospatial Data Applications~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**

**Select one of the following:**

* [~~BIO 3023 - Principles of Ecology~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**
* [GEOG 3723 - Introduction to Physical Geography Weather and Climate](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [GEOG 4113 - Water Resources Planning](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* GEOG 4613 - Conservation of Natural Resources **Sem. Hrs: 3**
* GEOG 4623 - Environmental Management **Sem. Hrs: 3**
* [GEOG 4633 - Climatology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**

**~~Select one of the following:~~**

* [~~BIO 1503 - Biology of Plants~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~*****~~AND~~***
* [~~BIO 1501 - Biology of Plants Laboratory~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~1~~**
* ~~GEOL~~  [~~Environmental Geology~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~*****~~AND~~***
* ~~GEOL~~  [~~Environmental Geology Laboratory~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~1~~**
* [~~PHSC 1203 - Physical Science~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~*****~~AND~~***
* [~~PHSC 1201 - Physical Science Laboratory~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~1~~**

* [~~PHYS 1103 - Introduction to Space Science~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~*****~~AND~~***
* [~~PHYS 1101 - Introduction to Space Science Laboratory~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~1~~**
* [~~PHYS 2054 - General Physics I~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~4~~**

**Select one of the following:**

* [ISBA 1503 - Microcomputer Applications](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [CS 1013 - Introduction to Computers](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**

**Select ~~one~~ two of the following:**

* BCOM 2503 - Business Communication **Sem. Hrs:** **3**
* [COMS 2243 - Principles of Argumentation](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [COMS 2373 - Introduction to Interpersonal Communication](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [COMS 3243 - Principles of Persuasion](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [COMS 3203 - Business and Professional Communication](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [COMS 4263 - Organizational Communication](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**

**~~Select one of the following:~~**

* [~~ENG 3003 - Advanced Composition~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**
* [~~ENG 3013 - Practical Writing~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**
* [~~ENG 3043 - Technical Writing~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**
* [~~ENG 3053 - Introduction to Digital Writing~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**
* [~~ENG 4703 - Persuasive Writing~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**

**~~Select two upper-level PSSC courses of the following:~~**

* [~~PSSC 3313 - Plant Disease Management~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**
* [~~PSSC 3323 - Weeds and Weed Control~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**
* [~~PSSC 4713 - Soil Quality Assessment and Interpretation~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**
* [~~PSSC 4804 - Principles of Crop Production~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~4~~**
* [~~PSSC 4813 - Soil Fertility~~](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77)**~~Sem. Hrs:~~****~~3~~**

**Sub-total: 64**

**TOTAL REQUIRED HOURS: 120**

**COURSES:**

**GIS and Precision Agriculture ~~Agricultural Systems Technologies~~**

• ~~AGST~~ GIS 489V - Special Problems in GIS and Precision Agriculture ~~Agricultural Systems Technology~~ Sem. Hrs: Variable

• ~~AGST~~ GIS 2003 - Introduction to GIS and Precision Agriculture ~~Agricultural Systems Technology~~ Sem. Hrs: 3

• ~~AGST~~ GIS 3503 - Geospatial Data Applications Sem. Hrs: 3

• ~~AGST~~ GIS 3543 - Fundamentals of GIS/GPS Sem. Hrs: 3

• ~~AGST~~ GIS 4003 - Modern Irrigation Systems Sem. Hrs: 3

• ~~AGST~~ GIS 4503 - Agricultural Decision Tools and Analysis Sem. Hrs: 3

• ~~AGST~~ GIS 4511 - Unmanned Aircraft Systems Sem. Hrs: 1

• ~~AGST~~ GIS 4543 - Understanding Geographic Information Systems Sem. Hrs: 3

• ~~AGST~~ GIS 4773 - Remote Sensing Sem. Hrs: 3

• ~~AGST~~ GIS 4843 - GIS and Precision Agriculture ~~Agricultural Systems Technology~~ Capstone Sem. Hrs 3

**UNIVERSITY REQUIREMENTS:**

See [University General Requirements for Baccalaureate degrees](https://catalog.astate.edu/content.php?catoid=3&navoid=67#university-general-requirements-for-all-baccalaureate-degrees)

**FIRST YEAR MAKING CONNECTIONS COURSE**

* [AGRI 1213 - Making Connections in Agriculture](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**

**GENERAL EDUCATION REQUIREMENTS:**

* See [General Education Curriculum for Baccalaureate Degrees](https://catalog.astate.edu/preview_program.php?catoid=3&poid=447) **Sem. Hrs: 35**

**Students with this major must take the following:**

* [CHEM 1043 - Fundamental Concepts of Chemistry](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [CHEM 1041 - Fundamental Concepts of Chemistry Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **1**
* [BIOL 1003 - Biological Science](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [BIOL 1001 - Biological Science Laboratory](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **1**
* [GEOG 2613 - Introduction to Geography](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [COMS 1203 - Oral Communication](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3** *(Required Departmental Gen. Ed. Option)*

**AGRICULTURE CORE COURSES:**

(See [Agriculture Core Courses](https://catalog.astate.edu/preview_program.php?catoid=3&poid=458))

* GIS 2003 - Introduction to GIS and Precision Agriculture **Sem. Hrs: 3**

**MAJOR REQUIREMENTS:**

See emphasis area below.

**EMPHASIS AREA (AGRICULTURAL SYSTEMS TECHNOLOGY):**

* [AGRI 4223 - Agriculture and the Environment](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [GIS 3503 - Geospatial Data Applications](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [GIS 3543 - Fundamentals of GIS/GPS](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [GIS 4003 - Modern Irrigation Systems](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [GIS 4503 - Agricultural Decision Tools and Analysis](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [~~GIS~~ 4511 - Unmanned Aircraft Systems](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **1**
* [GIS 4543 - Understanding Geographic Information Systems](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [GIS 4773 - Remote Sensing](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [GIS 4843 - Agricultural Systems Technology Capstone](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* Select two upper-level PSSC courses **Sem. Hrs:** **6**
* Upper-level elective in AGEC, AGED, AGRI, ANSC, GEOG, GIS, HORT, or PSSC **Sem. Hrs: 21**

**Select two of the following:**

* BCOM 2503 - Business Communication **Sem. Hrs:** **3**
* [COMS 2243 - Principles of Argumentation](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [COMS 2373 - Introduction to Interpersonal Communication](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [COMS 3243 - Principles of Persuasion](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [COMS 3203 - Business and Professional Communication](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [COMS 4263 - Organizational Communication](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**

**Select one of the following:**

* [GEOG 3723 - Introduction to Physical Geography Weather and Climate](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [GEOG 4113 - Water Resources Planning](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* GEOG 4613 - Conservation of Natural Resources **Sem. Hrs: 3**
* GEOG 4623 - Environmental Management **Sem. Hrs: 3**
* [GEOG 4633 - Climatology](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**

**Select one of the following:**

* [ISBA 1503 - Microcomputer Applications](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**
* [CS 1013 - Introduction to Computers](https://catalog.astate.edu/preview_program.php?catoid=3&poid=465&returnto=77) **Sem. Hrs:** **3**

**Sub-total: 64**

**TOTAL REQUIRED HOURS: 120**

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**COURSES:**

**GIS and Precision Agriculture**

• GIS 2003 - Introduction to GIS and Precision Agriculture Sem. Hrs: 3

• GIS 3503 - Geospatial Data Applications Sem. Hrs: 3

• GIS 3543 - Fundamentals of GIS/GPS Sem. Hrs: 3

• GIS 4003 - Modern Irrigation Systems Sem. Hrs: 3

• GIS 4503 - Agricultural Decision Tools and Analysis Sem. Hrs: 3

• GIS 4511 - Unmanned Aircraft Systems Sem. Hrs: 1

• GIS 4543 - Understanding Geographic Information Systems Sem. Hrs: 3

• GIS 4773 - Remote Sensing Sem. Hrs: 3

• GIS 4843 - GIS and Precision Agriculture Capstone Sem. Hrs: 3  
 • GIS 489V - Special Problems in GIS and Precision Agriculture Sem. Hrs: Variable

**Appendix A, 8-Semester Plan**

(**Referenced in #2** - **Undergraduate Proposals Only)**

*Instructions: Please identify new courses in italics*.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Year 1** | | | | | | | | | |
| **Fall Semester** | | | |  | | **Spring Semester** | | | |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| Gen Ed: ENG 1003 | Composition 1 | 3 | x |  | | Gen Ed: ENG 1013 | Composition II | 3 | x |
| AGRI 1213 | Making Connections in Agriculture | 3 |  |  | | ISBA 1503, CS 1013 | **Choose one:**  Microcomputer Applications, Introduction to Computers | 3 |  |
| PSSC 1303 | Intro to Plant Science | 3 |  |  | | ANSC 1613 | Intro to Animal Science | 3 |  |
| Gen Ed Social Science\* ECON 2313,  ECON 2323,  ECON 2333,  HIST 1013,  HIST 1023,  MDIA 1003,  PSY 2013,  SOC 2213 | **Choose one:**  Principles of Macroeconomics,  Principles of Microeconomics,  Economic Issues & Concepts,  World History to 1500,  World History since 1500,  Mass Communications in Modern Society,  Introduction to Psychology,  Introduction to Sociology | 3 | x |  | | Gen Ed Math:  MATH 1023 | College Algebra **OR**  Any MATH requiring MATH 1023 as a prerequisite. | 3 | x |
| Gen Ed: ART 2503 | Fine Arts: Visual | 3 | x |  | | Gen Ed: COMS 1203 | Oral Communication | 3 | x |
| **Total Hours:** | | 15 | |  |  | **Total Hours**: | | 15 | |
|  | | | | | | | | | |
| **Year 2** | | | | | | | | | |
| **Fall Semester** | | | |  | | **Spring Semester** | | | |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| Gen Ed Life Science:  BIOL 1003/BIOL 1001 | Biological Science/ Lab | 4 | x |  | | Gen Ed Physical Science:  CHEM 1043/1041 | Fundamental Concepts of Chemistry/Lab | 4 | x |
| Gen Ed  ENG 2003,  ENG 2013,  PHIL 1013 | **Choose one:**  World Literature to 1660,  World Literature since 1660,  Intro to Philosophy | 3 | x |  | | PSSC 2813 or  GIS 2003 | Soils **OR**  Intro to Agribusiness | 3 |  |
| Extra Communications:  BCOM 2563,  COMS 2243,  COMS 2373,  COMS 3203,  COMS 3243,  COMS 4263 | **Choose one:**  Business Communication  Principles of Argumentation,  Introduction to Interpersonal Communications,  Business and Professional Communications,  Principles of Persuasion,  Organizational Communication | 3 |  |  | | GEOG 2613, | Introduction to Geography | 3 | x |
| GIS 2003 | Intro to GIS and Precision Agriculture | 3 |  |  | | GIS 3503 | Geospatial Data Applications | 3 |  |
| Gen Ed Social Science\*  HIST 2763,  HIST 2773,  POSC 2103 | **Choose one:**  United States History to 1876  United States History since 1876  Introduction to US Government | 3 | x |  | | Extra Communications:  BCOM 2563,  COMS 2243,  COMS 2373,  COMS 3203,  COMS 3243,  COMS 4263 | **Choose one:**  Business Communication  Principles of Argumentation,  Introduction to Interpersonal Communications,  Business and Professional Communications,  Principles of Persuasion,  Organizational Communication | 3 |  |
| **Total Hours:** | | 16 | |  | | **Total Hours**: | | 16 | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Year 3** | | | | | | | | |
| **Fall Semester** | | | |  | **Spring Semester** | | | |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| GEOG 3723,  GEOG 4113,  GEOG 4613, GEOG 4623,  GEOG 4633 | **Choose one:**  Intro to Phys. Geography, Weather & Climate,  Water Resources Planning, Conservation of Natural Resources, Environmental Management,  Climatology | 3 |  |  | PSSC | **Choose one:**  Plant and Soil Science 3000 or 4000 | 3 |  |
| GIS 3543 | Fundamentals of GIS/GPS | 3 |  |  | GIS 4003 | Modern Irrigation Systems | 3 |  |
| COMS 2243,  COMS 2373,  COMS 3203,  COMS 3243,  COMS 4263 | **Choose one:**  Principles of Argumentation,  Introduction to Interpersonal Communications,  Business and Professional Communications,  Principles of Persuasion,  Organizational Communication | 3 |  |  | Upper-Level Elective | Upper-Level Elective(s) in:  AGEC, AGED, ANSC, AGRI, GIS, GEOG, HORT, or PSSC. | 3 |  |
| AGRI 420V | Internships in Agriculture | 3 |  |  | GIS 4543 | Understanding Geographic Information Systems | 3 |  |
| PSSC | **Choose one:**  Plant and Soil Science 3000 or 4000 | 3 |  |  | AGRI 3233,  STAT 3233,  TECH 3733 | **Choose one**  Applied Agricultural Statistics, Applied Stats,  Statistics | 3 |  |
| **Total Hours:** | | 15 or 16 | |  | **Total Hours:** | | 15 | |
|  | | | | | | | | |
| **Year 4** | | | | | | | | |
| **Fall Semester** | | | |  | **Spring Semester** | | | |
| **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |  | **Course No.** | **Course Name** | **Hrs** | **Gen Ed** |
| GIS 4773 | Remote Sensing | 3 |  |  | GIS 4843 | GIS and Precision Agriculture Capstone | 3 |  |
| GIS 4503 | Agricultural Decision Tools and Analysis | 3 |  |  | AGRI 4223 | Ag and the Environment | 3 |  |
| GIS 4511 | Unmanned Aircraft Systems | 1 |  |  | Upper-Level Elective | Upper-Level Elective(s) in:  AGEC, AGED, ANSC, AGRI, GIS, GEOG, HORT, or PSSC. | 7 |  |
| Upper-Level Elective | Upper-Level Elective(s) in:  AGEC, AGED, ANSC, AGRI, GIS, GEOG, HORT, or PSSC. | 8 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| **Total Hours:** | | 15 | |  | **Total Hours:** | | 13 | |
| **Total Upper-Level Hours:** | | 57 | |  | **Total Degree Hours:** | | 120 | |