



# AGRICULTURAL SCIENCES (AGRI)

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## AGRI 810 Research Strategies in Agriculture

**Description:** Practical topics related to the planning, organization, administration, financing and reporting of research in agriculture.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Pass No-Pass

## AGRI 828 Scientific Illustration

**Crosslisted with:** ENTO 828, AGRO 828, HORT 828

**Prerequisites:** 12 hrs agricultural and/or biological sciences.

**Description:** Prepare scientifically accurate, high quality illustrations and graphics for the teaching, presentation, and publication of scientific information. Drawing techniques, drafting, copyright, and publication and presentation of scientific art work.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Grade Pass/No Pass Option

**Course and Laboratory Fee:** \$10

## AGRI 862 Invasive Pests and International Trade

**Crosslisted with:** AGRI 462

**Notes:** Offered fully online.

**Description:** Examination of the global issue of the impact of invasive pests on international trade, food production, and ability to feed increasing populations in the future. Focus on how local changes have biological, economic and social consequences at the global level and impact sustainability. Covers pest introductions and pathways, impact on global agriculture and trade, principles and practices in agricultural pest risk analysis and international cooperation.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Grade Pass/No Pass Option

## AGRI 888 Teaching Undergraduate Science

**Crosslisted with:** AGRI 488, SCIL 488, SCIL 888

**Description:** The dynamics of undergraduate student learning. Begin to develop the reflective practice of progressive instructional improvement. Interpreting improved educational outcomes in terms of the ability of the instructor to manipulate undergraduate student interactions with instructional materials in an active learning environment.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Grade Pass/No Pass Option

**Offered:** FALL

## AGRI 896 Independent Study in Agricultural Sciences

**Crosslisted with:** AGRI 496

**Prerequisites:** Advanced approval of the plan of work and permission.

**Description:** Individual or group projects in activities such as research, literature review, extension of course work, or preparation of teaching materials.

**Credit Hours:** 1-5

**Min credits per semester:** 1

**Max credits per semester:** 5

**Max credits per degree:** 12

**Grading Option:** Grade Pass/No Pass Option

## AGRI 897 Master of Applied Science Project

**Crosslisted with:** AGRO 897, HORT 897, NRES 897, ASCI 897

**Prerequisites:** Admission to Master of Applied Science degree program

**Notes:** Project activity for the Master of Applied Science degree.

**Description:** Design, develop and complete a project that requires synthesis of the course topics covered in the primary area of emphasis.

**Credit Hours:** 1-6

**Min credits per semester:** 1

**Max credits per semester:** 6

**Max credits per degree:** 6

**Grading Option:** Grade Pass/No Pass Option

## AGRI 899 Master of Applied Science Thesis

**Prerequisites:** Admission to masters degree program and permission of major adviser

**Description:** Thesis in support of candidate for a Master of Applied Science degree.

**Credit Hours:** 1-10

**Min credits per semester:** 1

**Max credits per semester:** 10

**Max credits per degree:** 10

**Grading Option:** Grade Pass/No Pass Option

**AGRI 930 Conservation Agriculture Systems****Crosslisted with:** NRES 930, AGEN 930, BSEN 930**Prerequisites:** Graduate student status.

**Notes:** Students entering the course should have a contextual understanding or background on the ecology of managed landscapes. The course is designed to build on students' scientific knowledge about the ecological functioning of agricultural landscapes by addressing the parallel influences of social, economic, and civil structures on agricultural system functioning, food security, cultural sovereignty, and environmental health.

**Description:** Aims to equip with an in-depth knowledge of conservation agriculture systems. Builds on scientific knowledge about the ecological functioning of agricultural landscapes by addressing the parallel influences of social, economic, and civil structures on agricultural system functioning, food security, cultural sovereignty, and environmental health. Explores the historical foundations, motivations, advances, and outcomes in global and local agricultural systems across time. Topics will focus on discovering ways scientific knowledge is correlated with historical occurrences and modern social perceptions. Content is selected to assist in developing multifaceted connections and clarity between their scientific understanding, the organization of agricultural systems, and the historical events that have influenced the development of modern food systems. Emphasis will be placed on harnessing individuals experiences and building discipline-based knowledge to prepare informed and perceptive agriculture science professionals with skills needed to strategically tackle modern agricultural production issues.

**Credit Hours:** 3**Max credits per semester:** 3**Max credits per degree:** 3**Grading Option:** Graded**Offered:** FALL**AGRI 945 Resilience Design in Agriculture****Crosslisted with:** NRES 945, AGEN 945, BSEN 945**Prerequisites:** Graduate student status.

**Description:** This 3-credit, graduate-level course teaches practical approaches in designing, or redesigning, food systems to optimize resource use and enhance agriculture system resilience. Transdisciplinary approaches are applied in solution development by combining concepts of conservation agriculture, agroecology, biodynamic farming, biogeochemistry, permaculture, and biosystems engineering to plan, mediate, and regenerate food systems. Topics center on land mitigation and adaptation methods that protect and conserve natural resources, regenerate and advance agroecosystems, promote land investment, adapt infrastructure, reduce disaster risks and climate vulnerability, and promote value-added incentives for controlling waste and pollution. Investigative analyses focus on ways food production and consumption patterns affect social and environmental sustainability and modern agrifood supply chain influences the economic concepts of circularity and solidarity.

**Credit Hours:** 3**Max credits per semester:** 3**Max credits per degree:** 3**Grading Option:** Graded**Offered:** FALL**AGRI 950 International Applications of Conservation Agriculture****Crosslisted with:** NRES 950, AGEN 950, BSEN 950**Prerequisites:** Graduate student status or approval by the instructor.

**Description:** This 3-credit, graduate-level course examines agricultural systems located in diverse geographical locations across the globe. Select agriculture production systems will be individually investigated to understand the environmental history of the area, creation of active production practices, viability of current methods, and value-added benefits from adding enhanced conservation practices. Science-based development plans will be created for the agriculture systems explored, which will have targeted goals, project objectives, theories to change (opportunities, barriers, planned interventions), implementation strategies, and assessment indicators. Improvement plans for each agriculture system will prioritize conservation practices and reflect on economic strengths and limitations of the region, community considerations, and dietary needs of the local population. Agriculture systems examined will include a diverse grouping of large-scale and small-holder food and fiber systems in Africa, Asia, Australia, Europe, North America, and South America.

**Credit Hours:** 3**Max credits per semester:** 3**Max credits per degree:** 3**Grading Option:** Graded**Offered:** SPRING