

Assessment: Assessment Plan

Degree Program - CASNR - Plant and Soil Science (BS)

CIP Code: 01.1101.00

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Program Purpose Statement: PSS General Information:

The Department of Plant and Soil Science (found within the College of Agricultural Sciences and Natural Resources) is dedicated to providing programs of excellence in teaching, research, and outreach. Educational programs are designed to prepare each student for the dynamic agricultural and renewable natural resources industry, an industry that encompasses five closely related segments: (1) producing agricultural products; (2) supplying agricultural chemical, feed, seed, and other production resources; (3) processing, storing, distributing, and marketing functions for agricultural products; (4) planning and managing programs for renewable natural resources; and (5) providing technical assistance, financing, services, education, research, and communications in all sectors of the food, feed, fiber, and natural resource complex.

Department Narrative:

There is a single Department of Plant and Soil Science (PLSS) undergraduate major. All undergraduate students in PSS take the same undergraduate core courses except for courses in their area of concentration (Crop Science, Environmental Soil and Water Science, Horticulture and Turfgrass Science, Viticulture and Enology, Local Food and Wine Production, or Horticulture (Distance)). Although the number of undergraduate students enrolled in PSS is increasing, over the past 13 years undergraduate enrollment in PLSS has been cyclic (Figure 1). Over this time period, mean Fall semester enrollment has been 136.5 students, However, every two or three years total enrollment declines, then increases for another two or three year period. Distance (online) student averages follow a similar trend (41.5 average students at a distance each year). During this same period average number of undergraduate students graduating with a PSS degree is approximately 25 each academic year (321 total undergraduate degrees presented). To assist in the recruiting and retention of undergraduates, in the 2019 – 2020 academic year, PSS provided \$127,750 in undergraduate student scholarships. In addition to scholarships, PSS recently added a \$15 million addition to the Plant Science building. The new Bayer Plant Science building has updated administrative offices, teaching labs (new microscopes, vent hoods, storage facilities, etc.), equipment, and study space which has improved undergraduate recruiting, teaching, learning, retention, and research opportunities. The PSS Greenhouse and Garden Complex also received recent modifications which will directly influence undergraduate student recruiting, learning and retention. In addition, between 2017 and 2019 several lecture rooms in the older and the newer Plant Science buildings, and the PSS Greenhouse were modified and updated to enhance the undergraduate learning experience (Mediasite equipment, new computers, projectors, seating, etc.). Undergraduate students in PSS have great opportunities to receive faculty mentoring. Each student is advised on several occasions each year by a faculty member. In addition, opportunities abound for undergraduate students to conduct research and receive faculty mentoring in PSS. In Fall of 2020, 34 undergraduate students were hourly employees of PSS faculty.

Modality: 100% Online, Fully Online (86-99% Online), Face-to-Face, Hybrid/Blended, Off Campus Face-to-Face

Student Learning Outcome: Application

Each student will demonstrate exceptional ability to apply technical and professional problem solving, and critical thinking skills needed to function within their specific field in the Plant and Soil Sciences

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 09/23/2016

Assessment Methods

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Capstone Assignment/Project - Turfgrass Science students will use will use knowledge and experience gained from previous courses to complete Semester Project / Case Study in capstone course (PSS 4316). (Active)

Criterion: Average grade on Semester Project / Case Study will be 3.0 or greater on 4.0 grade scale

Schedule: Senior year

Capstone Assignment/Project - Horticulture Science students will use knowledge and experience gained from previous courses to complete Semester Project / Case Study in capstone course (PSS 4411). (Active)

Criterion: Average grade on Semester Project / Case Study will be 3.0 or greater on 4.0 grade scale

Schedule: Senior year

Capstone Assignment/Project - Viticulture / Enology students will use knowledge and experience gained from previous courses to complete Semester Project / Case Study in capstone course (PSS 4310). (Active)

Criterion: Average grade on Semester Project / Case Study will be 3.0 or greater on 4.0 grade scale

Schedule: Senior year

Capstone Assignment/Project - Crop Science and Environmental Soil and Water Science students will use knowledge and experience gained from previous courses to complete Semester Project / Case Study in capstone course (PSS 4335). (Active)

Criterion: Average grade on Semester Project / Case Study will be 3.0 or greater on 4.0 grade scale

Schedule: Senior year

Capstone Assignment/Project - Local Food and Wine Production students will use will use knowledge and experience gained from previous courses to complete Semester Project / Case Study in capstone course (PSS 4410). (Active)

Criterion: Average grade on Semester Project / Case Study will be 3.0 or greater on 4.0 grade scale

Schedule: Senior Year

Student Learning Outcome: Detailed Knowledge

Each student will demonstrate exceptional in-depth knowledge and skills within their specific field in the Plant and Soil Sciences.

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 09/26/2016

Assessment Methods

Professional Development Activities - As part of their Senior Seminar (PSS 4100) experience, each Plant and Soil Science student will give an oral, scientific presentation unique to their discipline. (Active)

Criterion: Average grade for oral, scientific presentations will be 3.0 or greater on a 4.0 point scale.

Schedule: Senior year

Professional Development Activities - As part of their Senior Seminar (PSS 4100) experience, each Plant and Soil Science student will give written scientific papers unique to their discipline. (Active)

Criterion: Average grade for written papers will be 3.0 or greater on 4.0 grade scale.

Schedule: Senior year

Student Learning Outcome: Basic Knowledge

Each student will demonstrate exceptional ability to seek, find, and relate technical and professional knowledge in their specific field in the Plant and Soil Sciences

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Outcome Status: Active

Outcome Type: Student Learning

Start Date: 09/26/2016

Assessment Methods

Essays - Turfgrass Science students will demonstrate technical and professional knowledge as they successfully answer an essay exam question in the capstone course designated for their area of expertise (PSS 4316). (Active)

Criterion: Average essay grade will be 3.0 or greater on a 4.0 scale.

Schedule: Senior year

Essays - Horticulture Science students will demonstrate technical and professional knowledge as they successfully answer an essay exam question in the capstone course designated for their area of expertise (PSS 4411). (Active)

Criterion: Average essay grade will be 3.0 or greater on a 4.0 scale.

Schedule: Senior year

Essays - Viticulture / Enology students will demonstrate technical and professional knowledge as they successfully answer an essay exam question in the capstone course designated for their area of expertise (PSS 4310). (Active)

Criterion: Average essay grade will be 3.0 or greater on a 4.0 scale.

Essays - Crop Science and Environmental Soil and Water Science students will demonstrate technical and professional knowledge as they successfully answer an essay exam question in the capstone course designated for their area of expertise (PSS 4335). (Active)

Criterion: Average essay grade will be 3.0 or greater on a 4.0 scale.

Schedule: Senior year

Essays - Local Food and Wine students will demonstrate technical and professional knowledge as they successfully answer an essay exam question in the capstone course designated for their area of expertise (PSS 4310). (Active) (Active)

Criterion: Average essay grade will be 3.0 or greater on a 4.0 scale.

Schedule: Senior Year

Student Learning Outcome: Communication Skills

Each student will demonstrate exceptional oral, written, and additional communication skills appropriate for their specific field in the Plant and Soil Sciences

Outcome Status: Active

Outcome Type: Student Learning

Start Date: 09/26/2016

Assessment Methods

Student Projects - As part of their Senior Seminar (PSS 4100) experience, each Plant and Soil Science student will give an oral, scientific presentation unique to their discipline (Active)

Criterion: Average grade for oral, scientific presentations will be 3.0 or greater on a 4.0 point scale

Schedule: Senior year

Student Projects - As part of their Senior Seminar (PSS 4100) experience, each Plant and Soil Science student will give written scientific papers unique to their discipline (Active)

Criterion: Average grade for written papers will be 3.0 or greater on 4.0 grade scale

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Schedule: Senior year