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| **PLS  217 - Hydroponics**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Laboratory  | Optional  |
|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |

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| **Description** |
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|  | Hydroponics and controlled environment agriculture: an historical perspective; basic plant physiology and anatomy; general cultural practices; plant protection (insects and diseases); hydroponic systems; pollination, fertilization and bee management; plant nutrition and disorders; irrigation systems and nutrients; transplant production; greenhouse site selection, structures and control systems; fruit harvest; marketing and economics of a hydroponic business. |

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| **Characteristics** |
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|  | **Course Fees**  |  |
|  | $50 |
|  | **Course Requisites**  |
|  | PL S 130 or PL S 240 or consent of instructor. |

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| **PLS  235 - Introductory Horticulture**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Student Option |
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|  | Laboratory  | Optional  |
|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |
|  | **Course Attribute**  | Pass/Fail Option Available to Qualified Students |

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| **Description** |
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|  |  |
|  | Basic principles of cultural requirements, production systems, marketing and uses of herbaceous and woody ornamental plants. |

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| **Characteristics** |
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|  | **Course Fees**  |  |
|  | $43 |
|  | **Course Requisites**  |
|  | PL S130, PL S 240, MCB 181R. |
|  | **Field Trips**  |
|  | Two Saturday Field trips required |

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| **PLS  240 - Plant Biology**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 4.00 |
|  | **Grading Basis**  | Graded |
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|  | Laboratory  | Optional  |
|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |

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| **Description** |
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|  | This course deals with plant form and function from an evolutionary point of view and is intended for majors in all fields of biology. Emphasis is placed on understanding basic processes of metabolism, evolution, reproduction, growth, development, and physiology of nonvascular and vascular plants. These processes are considered within the context of the environments plants inhabit and human activities that affect or depend upon plants. |

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| **Characteristics** |
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|  | **Course Fees**  |  |
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| **PLS  270 - Golf and Sports Turf Management**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Student Option |
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|  | Laboratory  | Optional  |
|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |
|  | **Course Attribute**  | Pass/Fail Option Available to Qualified Students |

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| **Description** |
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|  | [Taught alternate years beginning 2000] Course will address specialized cultural management practices and relevant construction principles for golf course and sports turf fields.  Students will develop organizational strategies used for maintenance of the above areas. |

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| **Characteristics** |
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|  | **Repeatability**  |  |
|  | Course may be repeated for a maximum of 6 unit(s) or 2 completion(s). |

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| **PLS  300 - Applied Weed Science**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Laboratory  | Optional  |
|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |

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| **Description** |
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|  | This course will cover applied aspects of weed management in the low deserts of Arizona.  The focus will be on chemical and non-chemical techniques used in the production of field and vegetable crops.  Weed identification and classification will be covered.  Non-chemical weed management will include cultural, mechanical and biological control methods.  Chemical control will include herbicide mode of action, adjuvants, resistance and soil persistence.  Field projects will be conducted. |

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| **Characteristics** |
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|  | **Course Requisites**  |  |
|  | PLS 130 or PLS 240 are recommended but not required. |

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| **PLS  306 - Crop  Science and Production**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |

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| **Description** |
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|  | An examination of the fundamental aspects of plant science as applied to crop production. Laboratory exercises will be field-oriented and will involve several field trips. |

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| **Characteristics** |
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|  | **Course Requisites**  |  |
|  | PL S 130 or PL S 240, SWES 200. |
|  | **Field Trips**  |
|  | Field trips |

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| **PLS  312 - Animal and Plant Genetics**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 4.00 |
|  | **Grading Basis**  | Graded |
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|  | Laboratory  | Optional  |
|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |
|  | **Course Attribute**  | Cross Listed |

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| **Description** |
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|  | The course is designed to help students learn and use the basic concepts of the very broad field of genetics, including the sub-fields of transmission genetics, cytogenetics, cytoplasmic inheritance, quantitative inheritance, population genetics and evolution, and molecular genetics. Students will be able to solve a wide variety of genetics problems by utilizing the basic concepts and selecting an appropriate and effective approach. Students will also acquire some basic laboratory skills that will enhance their understanding of the concepts presented in the course. |

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| **Characteristics** |
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|  | **Equivalent To**  |  |
|  | ANS 312,  VSC 312 |
|  | **Also Offered As**  |
|  | ANS 312,  VSC 312 |
|  | **Course Fees**  |
|  | $22 |
|  | **Course Requisites**  |
|  | PLS 130 or PLS 240 or MCB 182R and MCB 182L; CHEM 103A, CHEM  |

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| **PLS  330 - Prop I: Sexual and Asexual Reproduction**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Laboratory  | Optional  |
|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |
|  | **Course Attribute**  | Writing Emphasis Course |

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| **Description** |
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|  | [Taught alternate years beginning Fall 2004]. Principles and practices of plant propagation by seed and asexual methods, including use of growth regulators, rooting media and misting systems. Physiological basis of propagation methods will be emphasized. |

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| **Characteristics** |
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|  | **Course Fees**  |  |
|  | $50 |
|  | **Course Requisites**  |
|  | PL S 130 or PL S240, MCB 181R. |

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| **PLS  333 – General Virology** |

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| **Course Detail** |
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|  | **Career**  |  |  |
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|  | **Units**  |
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|  | **Grading Basis**  |   |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
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|  | **Academic Organization**  |  |  |
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|  | \*\*\*  This course has not been scheduled.  \*\*\*  |

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| **Enrollment Information** |
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|  | **Add Consent**  |   |
|  | **Drop Consent**  |   |
|  | **Course Attribute**  | Cross Listed |

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| **Characteristics** |
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|  | **Course Requisites**  |  |
|  | MCB 181R, MCB 181L, CHEM 151, CHEM 152; MIC 205A and MIC 205L or PLP 305. |

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| **PLS  339 - Nursery Systems Management**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Laboratory  | Optional  |
|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |

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| **Description** |
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|  |  |
|  | Principles and practices of nursery operations: control of environmental factors and cultural practices involved in nursery production of plants. |

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| **Characteristics** |
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|  | **Course Fees**  |  |
|  | $49 |
|  | **Course Requisites**  |
|  | PL S 130 or PL S 240, SWES 200. |

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| **PLS  340 - Introduction to Biotechnology**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |
|  | **Course Attribute**  | Cross Listed |

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| **Description** |
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|  | Survey of the basic concepts and techniques used in the analysis and improvement of biological organisms by genetic engineering. |

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| **Characteristics** |
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|  | **Equivalent To**  |  |
|  | MCB 340,  MIC 340 |
|  | **Also Offered As**  |
|  | MCB 340,  MIC 340 |
|  | **Course Requisites**  |
|  | PLS 130 or PLS 240 or MCB 181R. |

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| **PLS  354 - Landscape Horticulture**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Laboratory  | Optional  |
|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |

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| **Description** |
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|  | Horticulture practices which influence performance of woody plants in urban situations. Installation, establishment and maintenance of plants in the landscape. |

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| **Characteristics** |
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|  | **Course Fees**  |  |
|  | $13 |
|  | **Course Requisites**  |
|  | PL S 130 or PL S 240, SWES 200. |

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| **PLS  355 - Turfgrass Management**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |

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| **Description** |
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|  | Species adaptability, growth and development, establishment and cultural practices affecting use. |

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| **Characteristics** |
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|  | **Course Requisites**  |  |
|  | PL S 130 or PL S 240 or MCB 181R |

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| **PLS  360 - Principles of Plant Physiology**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |
|  | **Course Attribute**  | Cross Listed |

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| **Description** |
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|  |  |
|  | Survey of the fundamental concepts of plant physiology and how those concepts are supported by evidence from physiological, biochemical, biophysical, molecular and genomic experiments. The emphasis is on "whole plant" physiology and how plants work in the real world. |

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| **Characteristics** |
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|  | **Equivalent To**  |  |
|  | MCB 360 |
|  | **Also Offered As**  |
|  | MCB 360 |
|  | **Course Requisites**  |
|  | PLS 130 or PLS 240; MCB 181R and MCB 181L; CHEM 103A and CHEM 103B. CHEM 241A and CHEM 241B recommended. |

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| **PLS  361 - Principles of Plant Physiology Laboratory**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 1.00 |
|  | **Grading Basis**  | Graded |
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|  | Laboratory  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |
|  | **Course Attribute**  | Cross Listed |

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| **Description** |
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|  | Laboratory exercises in plant physiology. |

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| **Characteristics** |
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|  | **Repeatability**  |  |
|  | Course may be repeated for a maximum of 2 unit(s) or 2 completion(s). |
|  | **Equivalent To**  |
|  | MCB 361 |
|  | **Also Offered As**  |
|  | MCB 361 |
|  | **Course Requisites**  |
|  | Prerequisite or concurrent registration, PLS 360. |

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| **PLS  397B - Advanced Greenhouse Crop Production**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Workshop  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |
|  | **Course Attribute**  | Honors Contract Course |

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| **Description** |
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|  | This is a hands-on emphasis course for students interested in careers in the greenhouse industry.  It includes plant cropping techniques, operation/maintenance/troubleshooting of the environmental & nutrient delivery systems and tracking the effects of the environment on plant growth, fruit yield & quality with an emphasis on pre and post-harvest handling.   Alternative crops & cropping systems, alternative energies, overall costs and business plans will also be discussed. |

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| **Characteristics** |
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|  | **Course Requisites**  |  |
|  | PLS 217. Consent of the instructor. |

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| **PLS  405 - Weed Science**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |

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| **Description** |
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|  | Principles of controlling agronomic and horticultural weeds.  Emphasis on weed biology and crop-weed competition in relation to chemical, mechanical, cultural and biological control strategies. |

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| **Characteristics** |
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|  | **May be Convened With**  |  |
|  | PLS  505 |
|  | **Course Requisites**  |
|  | PL S 130 or PL S 240, SWES 200; Concurrent registration, PL S 360. |

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| **PLS  428L - Microbial Genetics Laboratory**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 2.00 |
|  | **Grading Basis**  | Graded |
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|  | Laboratory  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Pathology |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |
|  | **Course Attribute**  | Cross ListedWriting Emphasis Course |

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| **Description** |
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|  | Laboratory associated with lecture course on Prokaryotic gene structure and function; methods of gene transfer and mapping, DNA structure, replication, transcription, and translation. Hands-on computer analysis of DNA sequences and gene cloning strategies. Principles of regulation of gene expression. Biology of plasmids and bacteriophages. |

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| **Characteristics** |
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|  | **Equivalent To**  |  |
|  | ECOL 428L,  MCB 428L,  MIC 428L,  MICR 428L,  PLP 428L,  SWES 428L,  VSC 428L |
|  | **Also Offered As**  |
|  | ECOL 428L,  MIC 428L,  PLP 428L,  SWES 428L,  VSC 428L |
|  | **Course Fees**  |
|  | $50 |
|  | **May be Convened With**  |
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|  | **Course Requisites**  |
|  | ECOL 320,  PL S 312 and PL P 428R. |

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| **PLS  428R - Microbial Genetics**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Pathology |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |
|  | **Course Attribute**  | Cross ListedWriting Emphasis Course |

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| **Description** |
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|  |  |
|  | Prokaryotic gene structure and function; methods of gene transfer and mapping, DNA structure, replication, transcription, and translation. Hands-on computer analysis of DNA sequences and gene cloning strategies. Principles of regulation of gene expression. Biology of plasmids and bacteriophages. |

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| **Characteristics** |
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|  | **Equivalent To**  |  |
|  | ECOL 428,  ECOL 428R,  GENE 428R,  MCB 428,  MIC 428,  MIC 428R,  MICR 428,  MICR 428R,  PLP 428,  PLP 428R,  SW 428,  SWES 428,  SWES 428R,  VSC 428,  VSC 428R |
|  | **Also Offered As**  |
|  | ECOL 428R,  MIC 428R,  PLP 428R,  SWES 428R,  VSC 428R |
|  | **May be Convened With**  |
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| **PLS  440 - Mechanisms of Plant Development**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |
|  | **Course Attribute**  | Cross ListedHonors Contract Course |

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| **Description** |
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|  | Focuses on the molecular genetic mechanisms of plant development using primarily the current model systems. |

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| **Characteristics** |
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|  | **Equivalent To**  |  |
|  | ECOL 440,  MCB 440 |
|  | **Also Offered As**  |
|  | ECOL 440,  MCB 440 |
|  | **May be Convened With**  |
|  | PLS  540 |
|  | **Course Requisites**  |
|  | CHEM 241B and MCB 320 or PL S 312. Concurrent registration, MCB 410 and MCB 411. One course in Biochemistry and one course in Molecular Biology are recommended. |

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| **PLS  448A - Plant Biochemistry and Metabolic Engineering**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |
|  | **Course Attribute**  | Cross Listed |

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| **Description** |
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|  |  |
|  | Covering topics in plant metabolic engineering; photosynthesis; carbohydrate, nitrogen and lipid metabolism; specialized metabolism. This course covers biochemical processes specific to plants and allows students to gain an understanding and appreciation of how (bio)chemical components are synthesized and utilized by plants during growth and development and in their interactions with their environment, as well as how these processes can be manipulated. A background in plant biology, general biochemistry or chemistry is expected. Note that concurrent registration in any of these courses will NOT meet this requirement. Students must have completed both semesters of O-chem and a biochemistry course that covers general metabolism prior to taking this course. |

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| **Characteristics** |
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|  | **Equivalent To**  |  |
|  | BIOC 448A,  CHEM 448A,  ECOL 448A,  MCB 448A |
|  | **Also Offered As**  |
|  | BIOC 448A,  CHEM 448A,  ECOL 448A,  MCB 448A |
|  | **May be Convened With**  |
|  | PLS  548A |
|  | **Course Requisites**  |
|  | CHEM 241A/B or CHEM 242A/B; BIOC 462A/B or BIOC 460 or consent of instructor. |

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| **PLS  449A - Plant Genetics and Genomics**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | \*\*\*  This course has not been scheduled.  \*\*\*  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |
|  | **Course Attribute**  | Cross Listed |

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| **Description** |
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|  |  |
|  | A 3 unit lecture/discussion course that provides an advanced treatment of the current knowledge and experimental approaches used in genetic and genomic analysis, with emphasis on plants.  Basic understanding of Mendelian genetics, gene and genome structure and function is required. |

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| **Characteristics** |
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|  | **Equivalent To**  |  |
|  | ECOL 449A,  GENE 449A,  MCB 449A |
|  | **Also Offered As**  |
|  | ECOL 449A,  GENE 449A,  MCB 449A |
|  | **May be Convened With**  |
|  | PLS  549A |
|  | **Course Requisites**  |
|  | PL S 312. |

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| **PLS  450 - Plant Anatomy and Morphology**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 4.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |

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| **Description** |
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|  | A combined lecture and laboratory course that investigates plant anatomy and morphology with an emphasis on vascular plants. The focus is on how plant structure relates to function. |

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| **Characteristics** |
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|  | **May be Convened With**  |  |
|  | PLS  550 |
|  | **Course Requisites**  |
|  | PL S 130 PL S 240 or MCB 181R. |

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| **PLS  455 - Turfgrass Science: Environmental  Stress**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |

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| **Description** |
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|  | Environmental interactions of turfgrasses. Adaptability to and cultural amelioration of environmental stress. Pesticide/nutrient fate and management practices to protect the environment. |

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| **Characteristics** |
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|  | **Course Requisites**  |  |
|  | PL S 130 or PL S 240, PL S 355, PL S 360. |

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| **PLS  475A - Physiology of Plant Production under Controlled Environment**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Spring |
|  | **Course Attribute**  | Cross Listed |

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| **Description** |
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|  | Controlled environment agriculture is the most effective technique to maximize crop yield and to produce high quality products with limited amounts of resources and minimal impact to the environment.  Students will learn the major environmental factors affecting plant growth and development under controlled environment and will understand interactions between plants and their microenvironments.  Lectures cover critical controlled environment issues and practices of plant production in greenhouse, plant production factory, tissue culture vessels and post-harvest storage, with an introduction to the current research status in these areas. |

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| **Characteristics** |
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|  | **Repeatability**  |  |
|  | Course may be repeated for a maximum of 6 unit(s) or 2 completion(s). |
|  | **Equivalent To**  |
|  | ABE 475A |
|  | **Also Offered As**  |
|  | ABE 475A |
|  | **May be Convened With**  |
|  | PLS  575A |
|  | **Course Requisites**  |
|  | PL S 360. |

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|  | **PLS  480 - Medicinal Plants**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Lecture  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |
|  | **Course Attribute**  | Cross Listed |

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| **Description** |
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|  | Historical and cultural aspects of plants and medicine, therapeutic uses of plants, psychoactive and food plants, contribution of medicinal plants to modern medicine, future of medicinal plants. |

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| **Characteristics** |
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|  | **Equivalent To**  |  |
|  | ARL 480 |
|  | **Also Offered As**  |
|  | ARL 480 |
|  | **May be Convened With**  |
|  | PLS  580 |

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| **PLS  498 - Senior Capstone**  |
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| **Course Detail** |
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|  | **Career**  |  |  |
|  | Undergraduate |
|  | **Units**  |
|  | 1.00 - 3.00 |
|  | **Grading Basis**  | Graded |
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|  | Independent Study  | Required  |

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|  | **Course Components**  |  |
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|  | **Academic Group**  |  |  |
|  | UA General |
|  | **Academic Organization**  |  |  |
|  |  | Plant Sciences, Sch |

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|  | **View Class Sections**  |

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| **Enrollment Information** |
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|  | **Typically Offered**  |  |
|  | Fall |
|  | **Course Attribute**  | Regular or Alternative Grades: ABCDE or SPCDE |

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| **Description** |
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|  | A culminating experience for majors involving a substantive project that demonstrates a synthesis of learning accumulated in the major, including broadly comprehensive knowledge of the discipline and its methodologies.  Senior standing required. |

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