

# COLLEGE OF NATURAL AND APPLIED SCIENCES

## AGRICULTURE & LIFE SCIENCES PROGRAM

### PROSPECTUS

The undergraduate Agriculture & Life Sciences Program serves both College of Natural & Applied Sciences majors and non-major students of the University of Guam and other regional institutions. The program prepares majors to graduate with the knowledge, skills, and values that will enable them to succeed in professions (both public and private) in the life sciences and agriculture; graduate or other professional schools; and contributing to their families and communities. To non-majors, the program offers disciplinary knowledge and skills in agriculture and the life sciences through courses and minor programs.

Given the relevance of the program's disciplines to Guam's sustainability, we actively develop our courses to both interest and accommodate students from other disciplines at both the lower and upper division levels. The Agriculture & Life Sciences Program curriculum provides graduates with education, work, and training experiences designed to guide them into becoming professionals and leaders in Guam, the Western Pacific, and globally.

### LEARNING OUTCOMES

1. Disciplinary knowledge and skills: Graduates will demonstrate integrated knowledge in their chosen fields of study and related sciences.
2. Research skills: Graduates possess critical thinking and analytical skills. Graduates are competent in basic procedures and safety protocols in conducting research. Graduates can use their knowledge and understanding of scientific concepts to explain and solve problems in their field.
3. Analytical skills: Graduates can apply quantitative and/or qualitative analytical methods in agriculture and the life sciences.
4. Communication skills: Graduates can gather and assess information and use it to create effective

research and outreach communication media and oral presentations.

5. Ethics and professionalism: Graduates understand the ethical principles underlying research, publication, and professional behavior. Graduates can demonstrate teamwork and networking skills, and understand the importance of providing correct credit for others' work.
6. Multicultural competence: Graduates will develop cross-cultural respect and a foundation for life-long multicultural competence.
7. Life-long learning and integration of knowledge from the sciences and the arts: Graduates can empower themselves through lifelong learning to enhance their knowledge base, and demonstrate an ability to integrate knowledge from the sciences and the arts.

### TRACKS

#### AGRICULTURE & LIFE SCIENCES TRACKS

The Agriculture & Life Sciences Program has four tracks:

##### **Agriculture & Natural Resource Science**

The Agriculture & Natural Resource Science track is intended for students who wish to continue their studies at the graduate level. This course of study will provide students with the necessary background to pursue the University's Master of Science degree in Sustainable Agriculture, Food, & Natural Resources or Environmental Science or any graduate program in agriculture and related fields in the United States or abroad. With advanced training, the student could become a scientist working in a wide variety of fields, or a professional in areas of engineering, veterinary medicine and natural resources.

## Tropical Agriculture Production

The Tropical Agriculture Production track is intended for students interested in professional careers in agriculture and related fields. The core courses will provide students with a broad foundation in agriculture with a concentration in tropical agriculture. Potential careers include an agriculture agent; quarantine officer; farm, landscape, or nursery management; agribusiness entrepreneur; natural resource conservation technician; service professional working with agricultural loans, crop assessment and forecasting agencies in government or private industry.

## Human Nutrition & Food Sciences

Students majoring in the Human Nutrition & Food Sciences track are prepared for diverse careers in nutrition and food as well as to continue on to an approved dietetics program to become an eligible registered dietitian or pursue graduate school in a related field. The Human Nutrition & Food Sciences field of study includes work in environments such as the food industry, health care, and fitness facilities, nutrition education, extension education in nutrition, government or private-sector food and nutrition agencies, and science education.

## Family & Community Resource Development Track

The Family & Community Resource Development track prepares students for careers with a diverse range of agencies and organizations that focus on improvement and/or maintenance of the well-being of individuals, families and communities in Guam, the Western Pacific, and the world. Professional networking opportunities with Guam-based organizations and community groups are fostered through the capstone experience requirements for the Agriculture & Life Sciences degree.

## DEGREE REQUIREMENTS

### MAJOR REQUIREMENTS

### AGRICULTURE & LIFE SCIENCES MAJOR REQUIREMENTS (112–130 CREDIT HOURS)

Description	Credit Hours
General Education Courses	35-47
ALS Core Courses	22-25
Track-Specific Courses	55-60
<b>Total Credit Hours</b>	<b>112-130*</b>

*Note:*

- Students must complete a minimum of 15 credits of upper division Agriculture & Life Sciences courses.
- Agriculture & Life Science majors must have a “C” or better in all courses required for the major.
- Agriculture & Life Science majors must have a “C” or better in the following GE courses or equivalent to register for all ALS required track courses:
  - EN110 Freshman Composition
  - EN111 Writing for Research

### General Education (35-47 credit hours)

Students must complete the [General Education requirements](#) listed in this catalog. Some of these courses are also Agriculture & Life Sciences program requirements and may be applied toward both sets of requirements. Consult your [CNAS academic advisor or major advisor](#) for recommendations that may count toward both General Education and major requirements.

### Core Courses (22-25 credit hours)

Course	Course Title	Credits	Term Offered
AL101	INTRODUCTION TO AGRICULTURE	3	FALL/SPRING/ ALL YEARS
AL101L	INTRODUCTION TO AGRICULTURE LAB	1	FALL/SPRING/ ALL YEARS
AL185	HUMAN NUTRITION	3	FALL/SPRING/ ALL YEARS
AL351	PERSONAL AND FAMILY FINANCIAL MANAGEMENT	3	FALL ONLY/ ALL YEARS
AL499	CAPSTONE SEMINAR	3	FALL/SPRING/ ALL YEARS

### Choice of (3-4 credit hours):

Course	Course Title	Credits	Term Offered
BI412	BIOMETRICS	3	FALL ONLY/ ALL YEARS
BI412L	BIOMETRICS LABORATORY	1	FALL ONLY/ ALL YEARS
MA385	APPLIED STATISTICS	3	FALL/SPRING/ ALL YEARS
MA387	STATISTICS FOR SCIENCES	3	FALL/SPRING/ ALL YEARS
MA387L	STATISTICS FOR SCIENCE LABORATORY	1	FALL/SPRING/ ALL YEARS

### Choice of (3-5 credit hours):

Course	Course Title	Credits	Term Offered
MA161A	COLLEGE ALGEBRA AND TRIGONOMETRY	3	FALL/SPRING/ ALL YEARS
MA165	PRECALCULUS	5	FALL/SPRING/ ALL YEARS

### Choice of (3 credit hours):

Course	Course Title	Credits	Term Offered
AL490	SPECIAL PROJECTS	3	FALL/SPRING/ ALL YEARS
AL498	INTERNSHIP	2 - 3	FALL/SPRING/ ALL YEARS

*\*Note: AL-101/L, AL-185, AL-499 courses may also apply to General Education requirements.*

### Track-Specific Courses

Upon entering the program track, students will be assisted by an academic adviser to identify their career objectives and select an appropriate option for study.

When selecting electives, students are encouraged to complete one or more of the many minor options offered under the program. The minor options are designed to provide areas of specialization to both Agriculture & Life Sciences majors and non-majors.

## Agriculture & Natural Resource Science Track Requirements (55 credit hours)

### Required Courses (51 credit hours)

Course	Course Title	Credits	Term Offered
BI157	PRINCIPLES OF BIOLOGY I	3	SPRING ONLY/ ALL YEARS
BI157L	PRINCIPLES OF BIOLOGY I LABORATORY	1	SPRING ONLY/ ALL YEARS
BI158	PRINCIPLES OF BIOLOGY II	3	FALL ONLY/ ALL YEARS
BI158L	PRINCIPLES OF BIOLOGY II LABORATORY	1	FALL ONLY/ ALL YEARS
BI315	GENERAL GENETICS	3	FALL ONLY/ ALL YEARS
BI315L	GENERAL GENETICS LABORATORY	1	FALL ONLY/ ALL YEARS
CH102	GENERAL CHEMISTRY	3	FALL ONLY/ ALL YEARS
CH102L	GENERAL CHEMISTRY LABORATORY	1	FALL ONLY/ ALL YEARS
CH103	GENERAL CHEMISTRY	3	SPRING ONLY/ ALL YEARS
CH103L	GENERAL CHEMISTRY LABORATORY	1	SPRING ONLY/ ALL YEARS
CH310A	ORGANIC CHEMISTRY	3	FALL ONLY/ ALL YEARS
CH311	BASIC LABORATORY TECHNIQUES IN ORGANIC CHEMISTRY	2	FALL ONLY/ ALL YEARS

Course	Course Title	Credits	Term Offered
MA203	CALCULUS I	5	FALL/SPRING/ ALL YEARS
PH251	UNIVERSITY PHYSICS	4	FALL ONLY/ ALL YEARS
PH210	INTRODUCTORY PHYSICS LABORATORY	1	FALL ONLY/ ALL YEARS
AL281	PRINCIPLES OF HORTICULTURAL SCIENCE	3	SPRING ONLY/ ALL YEARS
AL281L	PRINCIPLES OF HORTICULTURAL SCIENCE LAB	1	SPRING ONLY/ ALL YEARS
AL380	PRINCIPLES OF SOIL SCIENCE	3	FALL ONLY/ ALL YEARS
AL380L	PRINCIPLES OF SOIL SCIENCE LABORATORY	1	FALL ONLY/ ALL YEARS

### Choice of (4 credit hours):

Course	Course Title	Credits	Term Offered
AL136	SCIENCE OF AQUACULTURE	3	SPRING ONLY/ ALL YEARS
AL136L	SCIENCE OF AQUACULTURE LAB	1	SPRING ONLY/ ALL YEARS
AL211	INTRODUCTION TO ANIMAL SCIENCE	3	FALL ONLY/ ALL YEARS
AL211L	INTRODUCTION TO ANIMAL SCIENCE LAB	1	FALL ONLY/ ALL YEARS

**Choice of (4 credit hours):**

Course	Course Title	Credits	Term Offered
AL323	PLANT PATHOLOGY	3	FALL ONLY/ EVEN YEARS
AL323L	PLANT PATHOLOGY LAB	1	FALL ONLY/ EVEN YEARS
AL340	PEST MANAGEMENT	3	SPRING ONLY/ ODD YEARS
AL340L	PEST MANAGEMENT LAB	1	SPRING ONLY/ ODD YEARS
AL345	GENERAL ENTOMOLOGY	3	FALL ONLY/ ODD YEARS
AL345L	GENERAL ENTOMOLOGY LABORATORY	1	FALL ONLY/ ODD YEARS

**Elective Courses (4 credit hours)**

Upper division electives selected with an advisor. It is recommended to coordinate electives with Agriculture & Life Sciences or other UOG minor options.

**Tropical Agriculture Production Track  
Requirements (59 credit hours)**

**Required Courses (47 credit hours)**

Course	Course Title	Credits	Term Offered
AL102	INTRODUCTION TO PLANT SCIENCE	3	FALL/SPRING/ ALL YEARS
AL102L	INTRODUCTION TO PLANT SCIENCE LAB	1	FALL/SPRING/ ALL YEARS
AL281	PRINCIPLES OF HORTICULTURAL SCIENCE	3	SPRING ONLY/ ALL YEARS
AL281L	PRINCIPLES OF HORTICULTURAL SCIENCE LAB	1	SPRING ONLY/ ALL YEARS
AL321	HORTICULTURAL PLANT ID AND PROPAGATION	3	FALL ONLY/ EVEN YEARS
AL321L	HORTICULTURAL PLANT ID AND PROPAGATION LAB	1	FALL ONLY/ EVEN YEARS
AL323	PLANT PATHOLOGY	3	FALL ONLY/ EVEN YEARS
AL323L	PLANT PATHOLOGY LAB	1	FALL ONLY/ EVEN YEARS
AL340	PEST MANAGEMENT	3	SPRING ONLY/ ODD YEARS
AL340L	PEST MANAGEMENT LAB	1	SPRING ONLY/ ODD YEARS
AL345	GENERAL ENTOMOLOGY	3	FALL ONLY/ ODD YEARS
AL345L	GENERAL ENTOMOLOGY LABORATORY	1	FALL ONLY/ ODD YEARS

Course	Course Title	Credits	Term Offered
AL380	PRINCIPLES OF SOIL SCIENCE	3	FALL ONLY/ ALL YEARS
AL380L	PRINCIPLES OF SOIL SCIENCE LABORATORY	1	FALL ONLY/ ALL YEARS

**Choice of (8 credit hours):**

Course	Course Title	Credits	Term Offered
CH100	INTRODUCTION TO INORGANIC CHEMISTRY	3	FALL/SPRING/ ALL YEARS
CH100L	INTRODUCTION TO INORGANIC CHEMISTRY LABORATORY	1	FALL/SPRING/ ALL YEARS
CH101	INTRODUCTION TO ORGANIC CHEMISTRY	3	FALL/SPRING/ ALL YEARS
CH101L	INTRODUCTION TO ORGANIC CHEMISTRY LABORATORY	1	FALL/SPRING/ ALL YEARS
CH102	GENERAL CHEMISTRY	3	FALL ONLY/ ALL YEARS
CH102L	GENERAL CHEMISTRY LABORATORY	1	FALL ONLY/ ALL YEARS
CH103	GENERAL CHEMISTRY	3	SPRING ONLY/ ALL YEARS
CH103L	GENERAL CHEMISTRY LABORATORY	1	SPRING ONLY/ ALL YEARS

**Choice of (4 credit hours):**

Course	Course Title	Credits	Term Offered
AL136	SCIENCE OF AQUACULTURE	3	SPRING ONLY/ ALL YEARS
AL136L	SCIENCE OF AQUACULTURE LAB	1	SPRING ONLY/ ALL YEARS
AL211	INTRODUCTION TO ANIMAL SCIENCE	3	FALL ONLY/ ALL YEARS
AL211L	INTRODUCTION TO ANIMAL SCIENCE LAB	1	FALL ONLY/ ALL YEARS

**Choice of (3 credit hours):**

Course	Course Title	Credits	Term Offered
AL389	EXTENSION PROGRAMS & PLANNING	3	SPRING ONLY/ ALL YEARS
AL451	AGRICULTURAL BUSINESS MANAGEMENT	3	SPRING ONLY/ ODD YEARS

### Choice of (4 credit hours):

Course	Course Title	Credits	Term Offered
AL484	TROPICAL VEGETABLE PRODUCTION	3	SPRING ONLY/ ODD YEARS
AL484L	TROPICAL VEGETABLE PRODUCTION LAB	1	SPRING ONLY/ ODD YEARS
AL485	TROPICAL FRUITS HORTICULTURE	3	SPRING ONLY/ EVEN YEARS
AL485L	TROPICAL FRUITS HORTICULTURE LABORATORY	1	SPRING ONLY/ EVEN YEARS
AL486	ORNAMENTAL CROP PRODUCTION IN THE TROPICS	3	SPRING ONLY/ ODD YEARS
AL486L	ORNAMENTAL CROP PRODUCTION IN THE PACIFIC LABORATORY	1	SPRING ONLY/ ODD YEARS

### Elective Courses (12 credit hours)

Upper division electives selected with an advisor. It is recommended to coordinate electives with Agriculture & Life Sciences or other UOG minor options.

### Human Nutrition & Food Sciences Track Requirements (58–60 credit hours)

#### Required Courses (52-54 credit hours)

Course	Course Title	Credits	Term Offered
CH102	GENERAL CHEMISTRY	3	FALL ONLY/ ALL YEARS
CH102L	GENERAL CHEMISTRY LABORATORY	1	FALL ONLY/ ALL YEARS
CH103	GENERAL CHEMISTRY	3	SPRING ONLY/ ALL YEARS
CH103L	GENERAL CHEMISTRY LABORATORY	1	SPRING ONLY/ ALL YEARS
BI124	HUMAN ANATOMY AND PHYSIOLOGY I	3	FALL ONLY/ ALL YEARS
BI124L	HUMAN ANATOMY & PHYSIOLOGY I LABORATORY	1	FALL ONLY/ ALL YEARS
BI125	HUMAN ANATOMY & PHYSIOLOGY II	3	SPRING ONLY/ ALL YEARS
BI125L	HUMAN ANATOMY & PHYSIO II LABORATORY	1	SPRING ONLY/ ALL YEARS
AL140	SCIENTIFIC PRINCIPLES OF FOOD PREPARATION	3	FALL ONLY/ ALL YEARS
AL140L	SCIENTIFIC PRINCIPLES OF FOOD PREPARATION LAB	1	FALL ONLY/ ALL YEARS
CH310A	ORGANIC CHEMISTRY	3	FALL ONLY/ ALL YEARS

Course	Course Title	Credits	Term Offered
CH311	BASIC LABORATORY TECHNIQUES IN ORGANIC CHEMISTRY	2	FALL ONLY/ ALL YEARS
AL330	NUTRITION THROUGHOUT THE LIFESPAN	3	FALL ONLY/ ALL YEARS
AL335	NUTRITION FOR HEALTH, FITNESS AND SPORT	3	SPRING ONLY/ ALL YEARS
AL342	FOOD SAFETY AND SANITATION	3	SPRING ONLY/ ODD YEARS
AL439	COMMUNITY NUTRITION	3	SPRING ONLY/ ODD YEARS
AL445	FOOD CHEMISTRY	3	SPRING ONLY/ EVEN YEARS
AL445L	FOOD CHEMISTRY LABORATORY	1	SPRING ONLY/ EVEN YEARS
AL460	ADVANCED HUMAN NUTRITION	4	FALL ONLY/ EVEN YEARS

**Choice of (3-4 credit hours):**

Course	Course Title	Credits	Term Offered
AL470	NUTRITION EDUCATION AND COUNSELING	3	FALL ONLY/ ODD YEARS
BI225	BASIC MICROBIOLOGY	3	FALL ONLY/ ALL YEARS
BI225L	BASIC MICROBIOLOGY LABORATORY	1	FALL ONLY/ ALL YEARS

**Choice of (6 credit hours):**

Course	Course Title	Credits	Term Offered
AL455	NUTRITIONAL ASSESSMENT	3	SPRING ONLY/ ODD YEARS
AL475	MEDICAL NUTRITION THERAPY	3	SPRING ONLY/ EVEN YEARS

**OR**

**Choice of (4 credit hours):**

Course	Course Title	Credits	Term Offered
AL300	FOOD PROCESSING TECHNOLOGY	3	FALL ONLY/ ODD YEARS
AL300L	FOOD PROCESSING TECHNOLOGY LAB	1	FALL ONLY/ ODD YEARS

**Elective Courses (6 credit hours)**

Upper division electives selected with an advisor. It is recommended to coordinate electives with Agriculture & Life Sciences or other UOG minor options.

**Family and Community Resource  
Development Track Requirements (55 credit  
hours)**

**Required Courses (28 credit hours)**

Course	Course Title	Credits	Term Offered
AL140	SCIENTIFIC PRINCIPLES OF FOOD PREPARATION	3	FALL ONLY/ ALL YEARS
AL140L	SCIENTIFIC PRINCIPLES OF FOOD PREPARATION LAB	1	FALL ONLY/ ALL YEARS
AL205	FAMILIES IN SOCIETY	3	FALL ONLY/ ALL YEARS
AL309	YOUTH AT RISK	3	FALL ONLY/ ODD YEARS
AL330	NUTRITION THROUGHOUT THE LIFESPAN	3	FALL ONLY/ ALL YEARS
AL389	EXTENSION PROGRAMS & PLANNING	3	SPRING ONLY/ ALL YEARS
AL450	FAMILY RESOURCES	3	SPRING ONLY/ ODD YEARS
HS200	HEALTH AND WELLNESS	3	FALL/SPRING/ ALL YEARS
SW110	INTRODUCTION TO COMMUNITY SERVICES ON GUAM	3	FALL/SPRING/ ALL YEARS
SW313	RESEARCH METHODS FOR HEALTH AND SOCIAL SERVICES	3	SPRING ONLY/ ALL YEARS

**Family Emphasis (Choice of 6 credit hours)**

Course	Course Title	Credits	Term Offered
LW106	PERSONAL LAW	3	FALL/SPRING/ ALL YEARS
SO230	MARRIAGE AND THE FAMILY	3	SPRING ONLY/ ALL YEARS
SW344	AGING: MYTH & REALITIES	3	FALL ONLY/ ALL YEARS

**Community Emphasis (Choice of 6 credit  
hours)**

Course	Course Title	Credits	Term Offered
HS216	INTRODUCTION TO PUBLIC HEALTH	3	FALL ONLY/ ALL YEARS
SO332	GLOBALIZATION AND HUMAN DYNAMICS	3	SPRING ONLY/ EVEN YEARS
SO360	SOCIAL MOVEMENTS AND CHANGE	3	SPRING ONLY/ ALL YEARS

OR one of the following:

Course	Course Title	Credits	Term Offered
AL401	COMMUNITY PLANNING	3	AS REQUIRED/ AS REQUIRED
SO405	COMMUNITY DEVELOPMENT	4	SPRING ONLY/ ODD YEARS

**Resource Development Emphasis (Choice of 6 credit hours)**

Course	Course Title	Credits	Term Offered
PA306	HEALTH CARE PLANNING AND EVALUATION	3	SPRING ONLY/ ALL YEARS
PA347	LEADERSHIP AND COLLABORATION IN ORGANIZATIONS AND SOCIETY	3	FALL/SPRING/ ALL YEARS
SW410	SOCIAL WELFARE AND SOCIAL DEVELOPMENT IN MICRONESIA	3	FALL ONLY/ ALL YEARS
SO411	SOCIAL ISSUES IN MICRONESIA AND GUAM	3	FALL ONLY/ ALL YEARS

**Elective Courses (9 credit hours)**

Upper division electives selected with an advisor. It is recommended to coordinate electives with Agriculture & Life Sciences or other UOG minor options.

**MINOR REQUIREMENTS**

**MINOR IN TROPICAL HORTICULTURE COURSE REQUIREMENTS (24 CREDITS)**

**Required Courses (24 credit hours)**

Course	Course Title	Credits	Term Offered
AL281	PRINCIPLES OF HORTICULTURAL SCIENCE	3	SPRING ONLY/ ALL YEARS
AL281L	PRINCIPLES OF HORTICULTURAL SCIENCE LAB	1	SPRING ONLY/ ALL YEARS
AL340	PEST MANAGEMENT	3	SPRING ONLY/ ODD YEARS
AL340L	PEST MANAGEMENT LAB	1	SPRING ONLY/ ODD YEARS
AL380	PRINCIPLES OF SOIL SCIENCE	3	FALL ONLY/ ALL YEARS
AL380L	PRINCIPLES OF SOIL SCIENCE LABORATORY	1	FALL ONLY/ ALL YEARS
AL443	TECHNOLOGIES FOR SUSTAINABLE TROPICAL AGRICULTURE	3	SPRING ONLY/ ODD YEARS
AL443L	TECHONOLOGIES FOR SUSTAINABLE TROPICAL AGRICULTURE LABORATORY	1	SPRING ONLY/ ODD YEARS

**Choice of (8 credit hours):**

Course	Course Title	Credits	Term Offered
AL481	ENVIRONMENTAL SOIL SCIENCE	3	SPRING ONLY/ ODD YEARS
AL481L	ENVIRONMENTAL SOIL SCIENCE LABORATORY	1	SPRING ONLY/ ODD YEARS
AL484	TROPICAL VEGETABLE PRODUCTION	3	SPRING ONLY/ ODD YEARS
AL484L	TROPICAL VEGETABLE PRODUCTION LAB	1	SPRING ONLY/ ODD YEARS
AL485	TROPICAL FRUITS HORTICULTURE	3	SPRING ONLY/ EVEN YEARS
AL485L	TROPICAL FRUITS HORTICULTURE LABORATORY	1	SPRING ONLY/ EVEN YEARS

**MINOR IN CROP &  
ENVIRONMENTAL PROTECTION**

**SCIENCE REQUIREMENTS (24 CREDITS)**

**Required Courses (16 credit hours)**

Course	Course Title	Credits	Term Offered
AL281	PRINCIPLES OF HORTICULTURAL SCIENCE	3	SPRING ONLY/ ALL YEARS
AL281L	PRINCIPLES OF HORTICULTURAL SCIENCE LAB	1	SPRING ONLY/ ALL YEARS
AL380	PRINCIPLES OF SOIL SCIENCE	3	FALL ONLY/ ALL YEARS
AL380L	PRINCIPLES OF SOIL SCIENCE LABORATORY	1	FALL ONLY/ ALL YEARS
AL443	TECHNOLOGIES FOR SUSTAINABLE TROPICAL AGRICULTURE	3	SPRING ONLY/ ODD YEARS
AL443L	TECHONOLOGIES FOR SUSTAINABLE TROPICAL AGRICULTURE LABORATORY	1	SPRING ONLY/ ODD YEARS

**Choice of (4 credit hours):**

Course	Course Title	Credits	Term Offered
AL323	PLANT PATHOLOGY	3	FALL ONLY/ EVEN YEARS
AL323L	PLANT PATHOLOGY LAB	1	FALL ONLY/ EVEN YEARS
AL340	PEST MANAGEMENT	3	SPRING ONLY/ ODD YEARS
AL340L	PEST MANAGEMENT LAB	1	SPRING ONLY/ ODD YEARS
AL345	GENERAL ENTOMOLOGY	3	FALL ONLY/ ODD YEARS
AL345L	GENERAL ENTOMOLOGY LABORATORY	1	FALL ONLY/ ODD YEARS

**Elective Courses (8 credit hours)**

CEPS-related upper division electives (selected with and approved by ALS advisor)

**MINOR IN FARM & NATURAL RESOURCES MANAGEMENT REQUIREMENTS (22 CREDITS)**

**Required Courses (22 credit hours)**

Course	Course Title	Credits	Term Offered
AL102	INTRODUCTION TO PLANT SCIENCE	3	FALL/SPRING/ ALL YEARS
AL102L	INTRODUCTION TO PLANT SCIENCE LAB	1	FALL/SPRING/ ALL YEARS
AL281	PRINCIPLES OF HORTICULTURAL SCIENCE	3	SPRING ONLY/ ALL YEARS
AL281L	PRINCIPLES OF HORTICULTURAL SCIENCE LAB	1	SPRING ONLY/ ALL YEARS
AL351	PERSONAL AND FAMILY FINANCIAL MANAGEMENT	3	FALL ONLY/ ALL YEARS
AL451	AGRICULTURAL BUSINESS MANAGEMENT	3	SPRING ONLY/ ODD YEARS
AL484	TROPICAL VEGETABLE PRODUCTION	3	SPRING ONLY/ ODD YEARS
AL484L	TROPICAL VEGETABLE PRODUCTION LAB	1	SPRING ONLY/ ODD YEARS
AL485	TROPICAL FRUITS HORTICULTURE	3	SPRING ONLY/ EVEN YEARS
AL485L	TROPICAL FRUITS HORTICULTURE LABORATORY	1	SPRING ONLY/ EVEN YEARS

## MINOR IN FOOD SCIENCE REQUIREMENTS (24 CREDITS)

### Required Courses (24 credit hours)

Course	Course Title	Credits	Term Offered
CH310A	ORGANIC CHEMISTRY	3	FALL ONLY/ ALL YEARS
CH311	BASIC LABORATORY TECHNIQUES IN ORGANIC CHEMISTRY	2	FALL ONLY/ ALL YEARS
AL140	SCIENTIFIC PRINCIPLES OF FOOD PREPARATION	3	FALL ONLY/ ALL YEARS
AL140L	SCIENTIFIC PRINCIPLES OF FOOD PREPARATION LAB	1	FALL ONLY/ ALL YEARS
BI225	BASIC MICROBIOLOGY	3	FALL ONLY/ ALL YEARS
BI225L	BASIC MICROBIOLOGY LABORATORY	1	FALL ONLY/ ALL YEARS
AL300	FOOD PROCESSING TECHNOLOGY	3	FALL ONLY/ ODD YEARS
AL300L	FOOD PROCESSING TECHNOLOGY LAB	1	FALL ONLY/ ODD YEARS
AL342	FOOD SAFETY AND SANITATION	3	SPRING ONLY/ ODD YEARS
AL445	FOOD CHEMISTRY	3	SPRING ONLY/ EVEN YEARS

Course	Course Title	Credits	Term Offered
AL445L	FOOD CHEMISTRY LABORATORY	1	SPRING ONLY/ EVEN YEARS

## MINOR IN NUTRITION REQUIREMENTS (27 CREDITS)

### Required Courses (18 credit hours)

Course	Course Title	Credits	Term Offered
AL140	SCIENTIFIC PRINCIPLES OF FOOD PREPARATION	3	FALL ONLY/ ALL YEARS
AL140L	SCIENTIFIC PRINCIPLES OF FOOD PREPARATION LAB	1	FALL ONLY/ ALL YEARS
AL185	HUMAN NUTRITION	3	FALL/SPRING/ ALL YEARS
AL330	NUTRITION THROUGHOUT THE LIFESPAN	3	FALL ONLY/ ALL YEARS

### Choice of (8 credit hours):

Course	Course Title	Credits	Term Offered
BI124	HUMAN ANATOMY AND PHYSIOLOGY I	3	FALL ONLY/ ALL YEARS
BI124L	HUMAN ANATOMY & PHYSIOLOGY I LABORATORY	1	FALL ONLY/ ALL YEARS
BI125	HUMAN ANATOMY & PHYSIOLOGY II	3	SPRING ONLY/ ALL YEARS
BI125L	HUMAN ANATOMY & PHYSIO II LABORATORY	1	SPRING ONLY/ ALL YEARS
BI157	PRINCIPLES OF BIOLOGY I	3	SPRING ONLY/ ALL YEARS
BI157L	PRINCIPLES OF BIOLOGY I LABORATORY	1	SPRING ONLY/ ALL YEARS
BI158	PRINCIPLES OF BIOLOGY II	3	FALL ONLY/ ALL YEARS
BI158L	PRINCIPLES OF BIOLOGY II LABORATORY	1	FALL ONLY/ ALL YEARS

### Elective Courses (9 credit hours)

Choice of three of the following courses selected with and approved by minor advisor:

Course	Course Title	Credits	Term Offered
AL439	COMMUNITY NUTRITION	3	SPRING ONLY/ ODD YEARS
AL335	NUTRITION FOR HEALTH, FITNESS AND SPORT	3	SPRING ONLY/ ALL YEARS
AL445	FOOD CHEMISTRY	3	SPRING ONLY/ EVEN YEARS
AL445L	FOOD CHEMISTRY LABORATORY	1	SPRING ONLY/ EVEN YEARS
AL470	NUTRITION EDUCATION AND COUNSELING	3	FALL ONLY/ ODD YEARS
AL475	MEDICAL NUTRITION THERAPY	3	SPRING ONLY/ EVEN YEARS
AL342	FOOD SAFETY AND SANITATION	3	SPRING ONLY/ ODD YEARS
AL460	ADVANCED HUMAN NUTRITION	4	FALL ONLY/ EVEN YEARS

## FACULTY

### DIVISION CHAIR

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