

AGRICULTURAL OPERATIONS MANAGEMENT

Agricultural Operations Management combines hands-on applied coursework and core business principles with emerging technologies and sustainable methods. Students gain experience in systems management, environmental quality, energy efficiency, agricultural machinery, GIS/GPS technology, remote sensing, irrigation, power systems, water control, and precision agriculture.

About this Program

- **College:** Agricultural and Life Sciences (<http://catalog.ufl.edu/UGRD/colleges-schools/UGAGL/>)
- **Degree:** Bachelor of Science
- **Credits for Degree:** 120

To graduate with this major, students must complete all university, college, and major requirements.

Department Information

The Department of Agricultural and Biological Engineering is founded on developing, teaching, and applying engineering principles to improve and sustain agricultural and biological systems for current and future generations.

Website (<https://abe.ufl.edu/>)

CONTACT

352.392.1864 (tel) | 352.392.4092 (fax)

P.O. Box 110570

Frazier Rogers Hall

1741 Museum Road, Bldg 474

GAINESVILLE FL 32611-0570

Map (<http://campusmap.ufl.edu/#/index/0474>)

Curriculum

- Agricultural Operations Management
- Biological Engineering
- Combination Degrees
- Packaging Engineering Certificate
- Packaging Science Minor
- Precision Agriculture Minor

Students gain technical experience in systems management, environmental quality, energy efficiency, agricultural machinery, GIS/GPS remote sensing, computers programs, irrigation, power systems, water control and precision agriculture. Through interdisciplinary, holistic training in agricultural, natural systems, and business management, AOM students can identify systems problems, formulate possible solutions, evaluate the impact of alternatives and then implement a best solution.

The curriculum supports students who plan to seek career opportunities in commercial business operations and management. In addition to hands-on applied skills, students also will take courses in economics, accounting, business, finance, sales and business management.

For graduates in AOM, there is an abundance of job opportunities. The program provides a solid foundation in management of technical assets, infrastructure, money, and personnel. Graduates become an integral part of the profitable operations of many types of businesses, such as grove

management, commercial nurseries, building construction and materials, cattle operations, regulatory agencies and citrus processing.

A major strength of the AOM program is its small class sizes. Students benefit from engaging discussion in a welcoming environment, interacting with and getting to know professors, and connecting with classmates through hands-on projects, activities and club functions.

The Agricultural Operations Management program is housed in Frazier-Rogers Hall with laboratories, classrooms and a student computing lab, and also features an additional off-site construction laboratory on Museum Road.

The program features electives in focused areas of concentration:

- Sustainable Energy and Facilities
- Agribusiness Management
- Animal Production Management
- Fishery and Aquatic Production
- Horticulture and Crop Management
- Soil and Water Science

Critical Tracking

Critical Tracking records each student's progress in courses that are required for entry to each major. Please note the critical-tracking requirements below on a per-semester basis.

Equivalent critical-tracking courses as determined by the State of Florida Common Course Prerequisites (<http://www.flvc.org/cpp/displayRecord.jsp?cip=140301&track=01>) may be used for transfer students.

Semester 1

- Complete 2 of 8 critical-tracking courses, excluding labs, with a minimum grade of C: ACG 2021, BSC 2010 and BSC 2010L, CHM 2045 and CHM 2045L, ENC 2210, MAC 1147 or MAC 2233, PHY 2004 or PHY 2020, PSY 2012, and SPC 2608 or AEC 3030C.
- 2.0 GPA required for all critical-tracking coursework
- 2.0 UF GPA required

Semester 2

- Complete 1 additional critical-tracking course, excluding labs, with a minimum grade of C.
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 3

- Complete 2 additional critical-tracking course, excluding labs, with a minimum grade of C.
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 4

- Complete 1 additional critical-tracking course, excluding labs, with a minimum grade of C.
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Semester 5

- Complete remaining critical-tracking courses, including labs, with a minimum grade of C.
- 2.0 GPA required for all critical-tracking courses
- 2.0 UF GPA required

Model Semester Plan

To remain on track, students must complete the appropriate critical-tracking courses, which appear in bold. These courses must be completed by the terms as listed above in the Critical Tracking criteria.

This semester plan represents an example progression through the major. Actual courses and course order may be different depending on the student's academic record and scheduling availability of courses. Prerequisites still apply.

Course	Title	Credits
Semester One		
Quest 1 (Gen Ed Humanities)		3
Select one:		3-4
BSC 2010 & 2010L	Integrated Principles of Biology 1 and Integrated Principles of Biology Laboratory 1 (Critical Tracking)	
BOT 2010C	Introductory Botany (Critical Tracking ; Gen Ed Biological Sciences)	
Select one:		3-4
MAC 1147	Precalculus Algebra and Trigonometry (Critical Tracking ; State Core Gen Ed Mathematics)	
MAC 2233	Survey of Calculus 1 (Critical Tracking ; State Core Gen Ed Mathematics)	
State Core Gen Ed Composition (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext); Writing Requirement; with Diversity or International		3
Elective		2
Credits		14-16
Semester Two		
Select one:		4
ACG 2021	Introduction to Financial Accounting (Critical Tracking)	
Advisor-approved alternative (Critical Tracking)		
CHM 2045 & 2045L	General Chemistry 1 and General Chemistry 1 Laboratory (Critical Tracking ; State Core Gen Ed Physical Sciences)	4
STA 2023	Introduction to Statistics 1 (Gen Ed Mathematics)	3
State Core Gen Ed Humanities with Diversity or International (http://catalog.ufl.edu/UGRD/academic-programs/general-education/#genedcoursestext)		3
Gen Ed Physical Sciences		3
Credits		17
Semester Three		
AOM 2520	Global Sustainable Energy: Past, Present and Future	3
Select one:		3-4
AEB 2014	Economic Issues, Food and You	
ECO 2013	Principles of Macroeconomics (Gen Ed Social and Behavioral Sciences)	
Select one:		4

PHY 2004 & 2004L	Applied Physics 1 and Laboratory for Applied Physics 1 (Critical Tracking ; Gen Ed Physical Sciences)	
PHY 2020 & PHY 2004L	Introduction to Principles of Physics and Laboratory for Applied Physics 1 (Critical Tracking ; Gen Ed Physical Sciences)	
PSY 2012	General Psychology (Critical Tracking ; State Core Gen Ed Social and Behavioral Sciences)	3
Credits		13-14

Semester Four		
Quest 2		3
Select one:		3
AEC 3030C	Effective Oral Communication (Critical Tracking)	
SPC 2608	Introduction to Public Speaking (Critical Tracking)	
ENC 2210	Technical Writing (Critical Tracking ; Gen Ed Composition)	3
Approved elective		3
Credits		12

Semester Five		
AEB 3300 or MAR 3023	Agricultural and Food Marketing or Principles of Marketing	3-4
AEB 3133 or MAN 3025	Principles of Agribusiness Management or Principles of Management	3-4
AOM 3220	Agricultural Construction and Maintenance	3
AOM 3333	Pesticide Application Techniques	3
Approved elective		3
Credits		15-17

Summer After Semester Five		
AOM 3734	Irrigation Principles and Practices in Florida	3
Credits		3

Semester Six		
ALS 3133 or AOM 4521	Agricultural and Environmental Quality or Introduction to Biofuels	3
AOM 4314C	Power and Machinery Management	3
SWS 3022	Introduction to Soils in the Environment	3
Approved electives		6
Credits		15

Semester Seven		
Select one business law, ethics, or human resources course:		3-4
AEB 4085	Agricultural Risk Management and the Law	
AEB 4123	Agricultural and Natural Resource Law	
AEB 4126	Agricultural and Natural Resource Ethics	
BUL 4310	The Legal Environment of Business	
AOM 4642	Environmental Systems for Agricultural Structures	3
AOM 4643	Environmental Hydrology: Principles and Issues	3
AOM 4933	Professional Practices in Agricultural Operations Management	1
Approved electives		6
Credits		16-17

Semester Eight		
AOM 4434	Precision Agriculture	3
AOM 4444C	Electrical Power and Instrumentation for Agricultural Operations Management	3
AOM 4455	Agricultural Operations and Systems	3
AOM 4461	Sustainable Agricultural Systems	3

Approved elective	3
Credits	15
Total Credits	120

AOM 4314	R	R	R	R	
AOM 4455A		A	A	A	A

Academic Learning Compact

The agricultural operations management curriculum integrates business and technical knowledge of agricultural operations. Knowledge is developed through formal courses, laboratory experimentation and individual experience. Students will learn to incorporate technical agricultural skills with modern business techniques and to communicate these results effectively in an appropriate presentation style.

Assessment Types

- Course modules
- Presentations
- Exams
- Final grades

Before Graduating Students Must

- Pass the agricultural operations management competency exam, given in three parts. One part will be given in each of the following required courses:

Code	Title	Credits
AOM 4455 or AOM 3734	Agricultural Operations and Systems Irrigation Principles and Practices in Florida	3
AOM 4314C or AOM 3734	Power and Machinery Management Irrigation Principles and Practices in Florida	3
AOM 4642 or AOM 4434	Environmental Systems for Agricultural Structures Precision Agriculture	3

- Achieve satisfactory portfolio assessment in AOM 3073.
- Complete requirements for the baccalaureate degree, as determined by faculty.

Students in the Major Will Learn to

Student Learning Outcomes (SLOs)

Content

1. Describe fundamental concepts, skills and processes in agricultural operations management.
2. Apply fundamental concepts, skills and processes in agricultural operations management.

Critical Thinking

3. Critically evaluate information or data in agricultural operations management.
4. Solve problems in agricultural operations management.

Communication

5. Communicate effectively in written form in a manner appropriate in agricultural operations management.
6. Communicate effectively orally in a manner appropriate in agricultural operations management.

Curriculum Map

I = Introduced; R = Reinforced; A = Assessed

Courses	SLO 1	SLO 2	SLO 3	SLO 4	SLO 5	SLO 6
AEC 3030C						I
AEC 3033C					I	
AOM 2520I			I		A	R
AOM 3220I	I		I			
AOM 3734R		R	R	I		