

**AOM 3220**  
**AGRICULTURAL CONSTRUCTION AND MAINTENANCE**  
**Agricultural & Biological Engineering**  
**The University of Florida**

**Fall 2020**      Tuesday (class) **8:30-9:20 AM**  
Tuesday (lab) 3:00-4:55pm (Lab meets in See Lab explanation below)  
Wed (lab) 3:00 – 4:55pm (Lab meets in See Lab explanation below)  
Thursday (class) **8:30-9:20am**  
Thursday (lab) 3:00-4:55pm (Lab meets in See Lab explanation below)

**Instructor:** Dr. Wendell A. Porter, P.E.  
Lecturer and Undergraduate Adviser  
Rogers Hall, Rm 113  
352-294-6706  
[wporter@ufl.edu](mailto:wporter@ufl.edu)  
Office hours: Schedule apt via Zoom link as needed

**Prerequisites:** There are no prerequisites for AOM3220

**Fall 2020 Details**

This class will be taught for the first and hopefully last time, 100% online. Here are the key details that you need to be aware of for this Fall 2020 semester:

- This class will be taught online in a synchronous fashion using the Canvas platform. This means that we will keep to your registered class times of 8:30 to 9:20am on Tuesday and Thursday mornings for class and between 3 and 5pm on your given lab period. This will give us a maximum opportunity to have a true class conversation as a group.
- Your first assignment will be to provide me with a mailing address that I can use to mail each of you a package of lab supplies. These supplies will enable you to do all of your hands-on labs and the materials will be yours to keep. You will not have to mail them back to the University.
- It will be extremely important for each of you to carefully follow class and lab instructions. Do not cut corners and skip steps and do not think for a minute that since your “lab” might be in your home or your parent’s home, any minor problems that you cause won’t matter. You will not cause any homeowner issues through the assignments of this class.

**Catalog Description**

Selection and use of materials and tools used in planning, constructing and maintaining buildings. Students will participate in class lectures and laboratory activities to build full-scale projects involving framing, plumbing, electrical, windows, etc. Building codes and building science will be combined to provide an introduction to the world of construction.

**Course Objective**

Through laboratory experiences and subject matter covered, the student is expected to

gain rudimentary skill proficiencies and knowledge in the following areas:

- The student will be able to select, safely use, service and operate common shop and field construction tools.
- The student will be able to estimate material needs, select proper materials and use them to build common structures.
- Students will be able to analyze common electrical circuits, construct or repair them and demonstrate functionality.
- Students will be able to analyze common plumbing systems and materials and demonstrate construction techniques with PVC and copper.
- Students will use building science information and techniques to assist in material selection and building design for the hot-humid climate.
- Students will use best management practices to operate buildings in the most resource efficient method possible.
- Lab exercises will be used to develop student's small group management skills.

Time does not permit everything to be covered in lecture and lab, therefore, reading and homework will be assigned. Exams will include outside reading material as well as that provided in the lectures and labs. Reading lists and materials will be included in each module. There is no assigned textbook for this class. The schedule is approximate. Exact test dates will be presented in class at least one week ahead of each exam due to particular requirements of the AEC students. The Canvas system will be used to enable students to access course materials.

### **Course Schedule (dates are approximate)**

Week	Lecture/Lab	Topic	HW/Test notes	Lab/Comments
1	L1	Syllabus, Intro		No lab
	L2	Safety/sign-up	HW1	
2	L3	Tape measure Construction Math	HW2	Lab1: Safety, tools, wall skills
	L4	Building Envelope	HW3	
3	L5	Building Envelope types	HW4	Lab2: Fasteners
	L6	Building Envelope types		
4	L7	Building Systems	HW5	Lab 3: Wall Systems
	L8	Building systems		
5	L9	Test review		Lab 4: Roof Systems
	L10	Test 1		
6	L11	Bldg Systems: Electrical	HW6	Lab 5: Electrical I
	L12	Electrical		
7	L13	Electrical	HW7	Lab 6: Electrical II
	L14	Siting Issues, Topo	HW8	
8	L15	Plumbing		Lab 7: Plumbing
	L16	Plumbing	HW9	
9	L17	Concrete	HW9	Lab 8: Concrete
	L18	Concrete	HW10	
10	L19	Test review		Lab 9: HVAC

	L20	Test 2		
11	L21	HVAC	HW11	Lab 10: HVAC
	L22	HVAC		
12	L23	HVAC	HW12	Lab 11: Whole House Sys
	L24	Case Studies	HW13	
13	L25	Case Studies		Lab 12: Low cost, no cost
	L26	Case Studies	HW14	
14	L27	Weatherization	HW15	No Lab Thanksgiving
15	L28	Weatherization	HW16	Lab 13: PV and Demos
	L29	Weatherization		
16	L30	Review and the Future, Test 3 assigned		No lab

### **Grading**

Exams	3 Tests (80 pts each)	240 pts
Quizzes	10 (10 pt each)	100 pts
Labs	12 labs	240 pts
Homework	18 sets	160 pts
Attendance (taken at least ten times during lectures)		60 pts

800 to 752 pts	A
751 to 720 pts	A-
719 to 696 pts	B+
695 to 664 pts	B
663 to 640 pts	B-
639 to 616 pts	C+
615 to 576 pts	C
575 to 560 pts	C-
559 to 536 pts	D+
535 to 496 pts	D
495 to 480 pts	D-
Below 480 pts	E

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

### **General Requirements**

1. Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

When attendance is mentioned, it is assumed to mean online attendance for Fall 2020 only. Attendance is required at the lab you are registered. This is a very hands-on course, the only way to learn in lab and to do the project (both of which earn points) is through attendance. Therefore, it is to the student's great

advantage to make every effort to attend. A particular missed lab can not be made up once the week in which that lab is taught, has passed.

2. Skills and psychomotor proficiencies take longer to develop than the cognitive skills, therefore it may take some people additional time and practice to gain mastery of some skills. Much of the lab work in this course is psychomotor or skill oriented and proficiency will be evaluated for grading purposes.
3. Since this is a shop course, please dress accordingly (i.e. no sandals, loose fitting sleeves, dangling jewelry or hair, shirt tails and clothing that might get caught in the machinery).
4. You will be asked to help clean up the lab toward the end of the period.
5. Students are **not only expected to attend each lab but the ENTIRE scheduled period.** Therefore, arrangements should be made ahead of time in order to leave early and still receive credit.

### **Grades and Grade Points**

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>.

### **Attendance and Make-Up Work**

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: <https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/>.

### **Online Course Evaluation Process**

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at: <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at: <https://gatorevals.aa.ufl.edu/public-results/>.

### **Academic Honesty**

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “*We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.*” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: “*On my honor, I have neither given nor received unauthorized aid in doing this assignment.*”

It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

### **Software Use:**

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate.

### **Services for Students with Disabilities**

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

0001 Reid Hall, 352-392-8565, <https://disability.ufl.edu/>

### **Campus Helping Resources**

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- *University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, [www.counseling.ufl.edu](http://www.counseling.ufl.edu)*  
Counseling Services  
Groups and Workshops  
Outreach and Consultation  
Self-Help Library  
Wellness Coaching
- U Matter We Care, [www.umatter.ufl.edu/](http://www.umatter.ufl.edu/)
- *Career Connections Center, First Floor JWRU, 392-1601, <https://career.ufl.edu/>.*

### Student Complaints:

- Residential Course: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>.
- Online Course: <http://www.distance.ufl.edu/student-complaint-process>

### Additional information

Instructors may choose to clarify in their syllabus their teaching philosophy, expectations for classroom behavior, utilization of e-learning, and other information that will help students succeed in the course.