

Aquatic Plant Management
PLS 5633 (3 credits)
Agronomy Department - University of Florida
Fall Semesters

Instructors: Dr. Candice Prince
Office – Room 003, Center for Aquatic and Invasive Plants
7922 NW 71st St Bldg 460
Gainesville, FL 32653
Email – cprince14@ufl.edu
Office phone – 352-392-9614

Course Website:

Course material and communication will be provided through the Canvas site at <http://lss.at.ufl.edu>

Course Communications:

All assignments are administered through the course site in Canvas. Unless otherwise requested on an individual basis, all other interactions between students and instructor will be via email (cprince14@ufl.edu) or via Canvas.

Office Hours:

I will be on Zoom every Wednesday from 4-5 (Zoom link provided in Canvas). You can also schedule office hours by appointment – send me an email to schedule a time.

Class Schedule:

This is an online course. Students are expected to watch the lectures and complete the accompanying assignments during their assigned week (see schedule below). Weekly lectures and assignments (quizzes, discussion posts, etc.) will be posted by 8:00 AM on Monday of each week; assignments will be due by 11:59 PM on Sunday of each week.

Course Description:

This course will provide students with a better understanding of aquatic plant management. Students will learn about aquatic ecosystems, focusing on the role and impacts of nuisance aquatic plants, and how to manage aquatic weeds using chemical, mechanical, cultural, biological, and preventative methods. This online course uses a mix of lectures, video demonstrations, and interviews.

Course Prerequisites:

Required - Botany (BOT 2010C) and Plant Physiology (BOT 3503, HOS 4304, or AGR 4512). Basic limnology (GLY 4930) helpful, but not required.

Course Objectives:

By the end of this course, students will be able to:

- 1) Describe aquatic ecosystems, water quality, and plant growth
- 2) Compare the basic biology and physiology of aquatic plant species

- 3) Identify several common aquatic plant species (both native and exotic)
- 4) Develop an appropriate management plan for aquatic weeds
- 5) Interpret and explain scientific papers related to aquatic plant management

Class Participation:

Students are expected to participate in discussion boards with other students and the instructor. For every discussion assignment, students will be expected to respond to two other classmates.

Textbooks:

There will be assigned readings from the peer-reviewed literature, as well as from the following textbook:

Gettys, L.A., Haller, W.T., and Petty, D.G. 2014. *Biology and Control of Aquatic Plants. A Best Management Practices Handbook* (4th ed.). Marietta, Georgia: Aquatic Ecosystem Restoration Foundation.

*****This textbook book is freely available***** via the Aquatic Ecosystem Restoration Foundation website. It can be downloaded as a pdf here:

<http://www.aquatics.org/bmp.html>

Assessments:

- **Discussion Posts:** A discussion board will be used to explore topics in more depth. Students will be required to participate in 9 discussion posts (10 points each) throughout the semester.
- **Lecture Quizzes:** There will be 6 quizzes (30 points each) on lecture material throughout the semester. Quizzes will be administered through the course site in Canvas.
- **Plant ID Quiz:** There will be 1 Plant ID quiz (60 points) where students will be required to identify common native and invasive aquatic plants.
- **Paper Reflections:** A selected journal article from the peer-reviewed literature will be posted to Canvas. Students will be required to reflect on the paper by providing a brief summary and answering 3-5 directed questions on the methods used, interpretation of results, management implications, etc. There will be 2 paper reflections (60 points each) due throughout the semester.
- **Homework Assignments:** Several modules will have homework assignments associated with them that may require calculations, interpretations of data, or short-answer responses. There will be 3 open-book homework assignments (110 points each) due throughout the semester.

- **Term Paper:** Students must select a nuisance aquatic plant species and write a term paper about its biology, ecology, and management. This assignment is worth 215 points total, and is broken up into 3 assignments:
 - a. species selection (10 points)
 - b. paper outline (50 points)
 - c. the final term paper (155 points).

Assignment	Points	Percent of Grade
Discussion Posts	90 (9 posts, 10 points each)	9%
Lecture Quizzes	180 (6 quizzes, 30 points each)	18%
Plant ID Quiz	60	6%
Homework Assignments	330 (3 assignments, 110 points each)	33%
Paper Reflections	120 (2 reflections, 60 points each)	12%
Species Selection for Term Paper	10	1%
Term Paper Outline	50	5%
Term Paper	160	16%
Total	1000	100%

Course Grading Scale:

For University of Florida grading policy see

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

The following grading scale will be used in this class:

Point range (%)	Letter Grade	GPA Equivalent
93.0 – 100	A	4
90.0 – 92.9	A-	3.67
87.0 – 89.9	B+	3.33
83.0 – 86.9	B	3
80.0 – 82.9	B-	2.67
77.0 – 79.9	C+	2.33
73.0 – 76.9	C	2
70.0 – 72.9	C-	1.67
67.0 – 69.9	D+	1.33
63.0 – 66.9	D	1
60.0 – 62.9	D-	0.67

< 60	E	0
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Late Policy:

Assignments that are posted later than the due date and time will be reduced by 10% per day. The group discussion board will close on the due date and time, and since it is a group activity no additions can be made afterwards. If you have a legitimate reason for a late assignment, please contact me before it is due so we can work out an alternative arrangement. Requirements for make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Any late submissions due to technical issues (i.e., Internet, Canvas, computer technology, etc.) must be accompanied by the ticket number received from the UF Help Desk (<https://helpdesk.ufl.edu/>; helpdesk@ufl.edu; 352-392-HELP) when the problem was reported to them.

Grade Corrections:

If you believe a grade has been assigned in error, submit corrections promptly within 3 business days of the grade posting. You must submit corrections in writing with a concise statement of why you believe there has been an error. Note that the instructor has the final determination in the grade assigned.

Class Outline:

This schedule is approximate and weekly lecture topics may be adjusted. Students will be notified if any changes are made.

Week:	Lecture:	Assignment Due:
1 8/23	<ul style="list-style-type: none"> • Intro to Aquatic Weeds and Aquatic Habitats • Intro to Aquatic Habitats 	<ul style="list-style-type: none"> • Discussion Post - Introductions
2 8/30	<ul style="list-style-type: none"> • Lake Morphology • Water Quality 	<ul style="list-style-type: none"> • Species Selection • Quiz
3 9/6	<ul style="list-style-type: none"> • Water Quality 	<ul style="list-style-type: none"> • Homework 1 Due
4 9/13	<ul style="list-style-type: none"> • Emergent Species 	<ul style="list-style-type: none"> • Quiz
5 9/20	<ul style="list-style-type: none"> • Floating Species 	<ul style="list-style-type: none"> • Discussion Post • Paper Reflection Due
6 9/27	<ul style="list-style-type: none"> • Submersed Species 	<ul style="list-style-type: none"> • Quiz • Discussion Post

7 10/4	<ul style="list-style-type: none"> • History of Aquatic Weed Management • Prevention Strategies 	<ul style="list-style-type: none"> • Plant ID Quiz • Discussion Post
8 10/11	<ul style="list-style-type: none"> • Cultural Management • Mechanical Management 	<ul style="list-style-type: none"> • Discussion Post • Quiz
9 10/18	<ul style="list-style-type: none"> • Biological Control 	<ul style="list-style-type: none"> • Paper Reflection Due
10 10/25	<ul style="list-style-type: none"> • Chemical Management 	<ul style="list-style-type: none"> • Homework 2 Due • Discussion
11 11/1	<ul style="list-style-type: none"> • Chemical Management 	<ul style="list-style-type: none"> • Quiz • Discussion Post
12 11/8	<ul style="list-style-type: none"> • Chemical Management 	<ul style="list-style-type: none"> • Term Paper Outline Due
13 11/15	<ul style="list-style-type: none"> • Chemical Management • Integrated Management 	<ul style="list-style-type: none"> • Discussion Post • Quiz
14 11/22	THANKSGIVING WEEK	
15 11/29	<ul style="list-style-type: none"> • Communicating with Stakeholders 	<ul style="list-style-type: none"> • Discussion Post • Homework 3 Due
16 12/6	<ul style="list-style-type: none"> • Climate Change 	<ul style="list-style-type: none"> • Term Paper Due

Course Evaluation:

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. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>.

Student 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, www.dso.ufl.edu/drc/

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>.

UF Counseling Services and Student Resources:

Students experiencing crises or personal problems that interfere with their general wellbeing 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*
 - *Counseling Services*
 - *Groups and Workshops*
 - *Outreach and Consultation*
 - *Self-Help Library*
 - *Wellness Coaching*
- *U Matter We Care, www.umatter.ufl.edu/*
- *Sexual Assault Recovery Services (SARS)*
- *Student Health Care Center, 392-1161*
- *University Police Department - 392-1111 (or 9-1-1 for emergencies). <http://www.police.ufl.edu/>*

Academic Resources:

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu. <https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling.
<http://www.crc.ufl.edu/>

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.
<http://teachingcenter.ufl.edu/>

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.
<http://writing.ufl.edu/writing-studio/>

Student Complaints: <http://www.distance.ufl.edu/student-complaint-process>

Software Use:

All faculty, staff and students of the University of Florida 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.

We, the members of the University of Florida, pledge to hold ourselves and peers to the highest standards of honesty and integrity.