*University of Florida*
*College of Public Health & Health Professions Syllabus*

**Aquatic Systems & Environmental Health, PHC 6301 - 3 credit hours**

***Semester: Spring 2023***

Delivery Format: Blended: Online content delivery with synchronous 1 hour weekly class meetings
Period 9 (4:05-4:55pm, Building 470, Conference Room 104);
In-person for on-campus students; Zoom for remote students
Course materials accessed through Canvas

**Instructor Name:**    Andy Kane
**Room Number:**    Conference Room, Building 470
**Dr. Kane Contact:**    273-9090 (office); 213-8407 (cell); KANE@UFL.EDU
**Office Hours:**    **After class and by appointment**
**Preferred Course Communications:** Canvas
**Prerequisites**: One year each of college-level biology and chemistry.

## PURPOSE AND OUTCOME
### Course Overview

This online, team-taught course will provide an overview of aquatic resources including oceans, estuaries, rivers, lakes, streams and ponds, with focus on respective biotic communities and environmental health. We will address the physical and chemical nature of water, and the hydrologic cycle in order to understand water and land usage, and examine contaminant fates and effects in different ecosystems. The course will provide a taxonomic and ecological summary of aquatic biota, from algae and invertebrates to vertebrates and pathogens. A case study approach will be used to provide resources pertaining to contaminant input, other anthropogenic activities, harmful algae, and changes in the environment such as climate change. Biotic indices of environmental change, including application of bioindicators, will be discussed and evaluated relative to both environmental and human health.

### Relation to Program Outcomes

Aquatic Systems and Environmental Health (ASEH) examines freshwater, estuarine and marine systems to support further, in-depth studies and understanding of the different sciences that examine aquatic systems ranging from chemistry, toxicology, pathology, parasitology, microbiology, fisheries biology and management, climatology, hydrology, policy, communications, epidemiology, and statistics. An integration of these constructs provides needed insights into species- and systematic biology and the dynamics of our changing environment to build working a vocabulary to understand aquatic systems from an environmental and public health perspective.

Competencies primarily *gained* in this course:

1. Monitor environmental health to identify and solve community health problems
2. Diagnose and investigate environmental health problems and health hazards affecting different aquatic systems and surrounding communities
3. Inform, educate, and empower people about aquatic and environmental health relative to public health
4. Communicate evidence-based sciences effectively with stakeholders in oral and written formats

Competencies *reinforced* in this course

1. Identify, access and apply academic, government, agency, industry and community partnership expertise to identify and solve health problems
2. Develop procedural, laboratory and field approaches to support aquatic and community health challenges
3. Evaluate effectiveness and quality of scientific literature for application in aquatic and environmental health research
4. Conduct research for new insights and innovative solutions to identify and address aquatic environmental health problems

Students are expected to be on time for all classes, and engage in all sessions and course activities. Each student is required to develop an oral and poster presentation on an assigned/approved topic.  The approved topic will focus on some aspect of their own thesis or dissertation research, or another topic as agreed upon with the instructor. Additional in-class presentation assignments and critiques will also be included.

## Course Objectives and/or Goals
*Upon successful completion of this course students will be able to:*

1. Describe the different types of aquatic environments and respective biota;
2. Discuss outcomes, in a broad sense, of natural and anthropogenically-accelerated environmental change on aquatic systems;
3. Exhibit competence applying common terminology used to describe water quality and aquatic systems;
4. Describe sources, and understand mechanisms, of infection for various waterborne diseases;
5. Describe biological and water quality factors that influence environmental contaminant exposure, uptake and toxicity to aquatic organisms
6. Describe a variety of contaminants that can enter aquatic systems and understand the mechanism by which a variety of biota may be affected;
7. Critically review scientific literature pertinent to aquatic and environmental health; and
8. Organize and present well-synthesized scientific discussions, using oral, written and visual formats, on topics relevant to aquatic biology, and environmental and public health.

## Instructional Methods
1. Lectures: Students are responsible for all the material presented in the course and assigned readings provided in class and in Canvas.  This will be the primary content delivery for this course.
2. Readings and Resources.  There is no required text. Readings and other resources will be posted in the Canvas course shell.  The reading list may be supplemented during the course.
3. Assessments:  Assessments will be based on course attendance and engagement, timely submission of all assignments and quizzes, and a midterm and a final examination.

## What is expected of you?
You are expected to actively engage in the course throughout the semester. You must come to class prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live class sessions.  If you are not prepared for the face-to-face sessions, you may struggle to keep pace with the activities occurring in the live sessions, and it is unlikely that you will reach the higher learning goals of the course. Similarly, you are expected to actively participate in the live class. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

**DESCRIPTION OF COURSE CONTENT AND SCHEDULE**

This course is taught as a series of modules, covering different aspects of communications styles and approaches. Each set of modules may contain lectures, external links, videos, discussions and required readings, as well as assignments. You are responsible for all course content regardless of the format. The topical Outline/Course Schedule below details the dates of content modules and assignments. The schedule is tentative based on guest lecturers and field class opportunities that may alter the dates/timing of some content delivery throughout the course.

**Modules by Topic**

**1** (Week of 1/9): Introductions of class participants, topical course content, assignments, expectations

**2** (Week of 1/16): Water properties, water chemistry; ocean acidification

**3** (Week of 1/23): Hydrogeology, watershed contamination

**4** (Week of 1/30): Aquatic insect taxonomy and ecology

**5** (Week of 2/6): Aquatic vectors and diseases

**6** (Week of 2/13): Article presentations, communication tools to support student presentations

**7** (Week of 2/20): Midterm Exam

**8** (Week of 2/27): Aquatic algae and vascular plants, harmful algal blooms

**9** (Week of 3/6): Aquatic birds and fishes

**10** (Week of 3/13): Outcomes of aquatic stressors

**11** (Week of 3/20): Aquatic microbiology

**12** (Week of 3/27) :Climate change

**13** (Week of 4/3): Student Presentations

**14** (Week of 4/10): Student Presentations

**15** (Week of 4/17): Final Exam

**Course Materials and Technology**
Handouts for lectures and other reading materials will be distributed via our course Canvas shell. Students must have the ability to capture photographs (from their personal digital camera or cell phone) to support required presentation projects throughout the course. Students without a functional digital camera or camera-capable phone can request a digital camera loan from the instructor during the first week of class. Students are expected to have regular access to a computer with internet access and MS Office applications installed.

For technical support for this class, please contact the UF Help Desk at:
- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- https://lss.at.ufl.edu/help.shtml

**ACADEMIC REQUIREMENTS AND GRADING**

**General information**
Assignments are to be turned in as Word, PowerPoint, Acrobat pdf files, or jpeg or movie files as directed, unless otherwise indicated. Assignments must be uploaded into Canvas two days prior to class (or as otherwise indicated in writing), and be concisely labeled with students' name, project and date submitted (e.g., **joshua_interview_052217.mov** or **maryk_posterabstract_070717.docx**). Feedback on assignments will be provided in class, and sometimes by email. Students are encouraged to meet with the instructor for individual feedback outside the classroom. If you have unexpected issues with Canvas, you should email the assignment to the instructor directly. Assignments are individual projects and shared work may be treated as a form of plagiarism. Assignments may be required to be submitted via Turnitin in this course (this will be done automatically in the Canvas Assignment). This tool will pick up any passages in students' work that come from another source, and the Turnitin system will provide a report back to the student. Some similarity is expected and unavoidable, however if large portions are copied from other sources, this will be as considered plagiarism.

The Canvas assignment tool will notify you confirming the submission of your assignment. Check your UF email daily for these and other email notices from the course site. If you do not receive an email confirmation within 2 hours of submission, please return to the site and resubmit your assignment. It is a student's responsibility to verify that they turn in assignments on time and that they turn in the CORRECT assignment attachment. Take a few moments to open your submitted attachment and verify that you have submitted to correct file.

**Course Requirements/Evaluation/Grading**
Students will be graded based on the timely submission and quality of homework and follow-up assignments, reports, projects and discussion input. Assignments will be graded based on on-time submission and following specific instructions, providing responses that directly, accurately answer the question(s) or address the topic clearly, and the quality, throughfulness and clarity of the work. Presentation topics will be chosen within the first 3 weeks of the course. Course grading will be based on attendance and participation in synchronous class meetings, assignments and presentations, and a midterm and final exam. Further details on assignment expectations and grading will be provided during the first live class session. The general grading scheme for this course is below; the grading rubric for individual assignments and presentations will be provided in Canvas.

Attendance & participation (all synchronous class sessions) (10%)
Assignments (all modules) (30%)
Midterm Exam (20%)
Student Presentation (20%)
Final Exam (20%)

**Point system used (i.e., how do course points translate into letter grades). Example:**

| Percentage of Points Earned | 93-100% | 90-92% | 87-89% | 83-86% | 80-82% | 77-79% | 73-76% | 70-72% | 67-69% | 63-66% | 60-62% | Below 62% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Points Earned | 1000-930 | 929-900 | 899-870 | 869-830 | 829-800 | 799-770 | 769-730 | 729-700 | 699-670 | 669-630 | 629-600 | Below 600 |
| Letter Grade | A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | E |

Please be aware that a C- is not an acceptable grade for graduate students. The GPA for graduate students must be 3.0. in all 5000 level courses and above to graduate. A grade of C counts toward a graduate degree only if a sufficient number of credits in courses numbered 5000 or higher have been earned with a B+ or higher.

| Letter Grade | A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | E | WF | I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Grade Points | 4.0 | 3.67 | 3.33 | 3.0 | 2.67 | 2.33 | 2.0 | 1.67 | 1.33 | 1.0 | 0.67 | 0.0 | 0.0 | 0.0 |

More information on UF grading policy may be found at:
http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#grades

**Exam Policy***: Not applicable.*

**Policy Related to Make up Work**
Requests for make-ups or late submittal due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem.

**Policy Related to Required Class Attendance**
Attendance is required for all classes since the course uses a heuristic approach to appreciating multiple forms of interpersonal communication dynamics for various audiences. Students are expected to attend all classes on time, and be prepared to participate in all class activities. ***NB: Since this three-credit course meets only once per week during Summer C, one missed class day is equivalent to missing three classes.*** Unexcused absences without prior communication with the instructor, and late assignment submissions, will affect a portion of your grade. Students who cannot attend a class are expected to access missed class content from another student in the class and turn in assignments by posted due dates. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis. Note that all faculty are bound by the UF policy for excused absences.

Excused absences must be consistent with university policies in the Graduate Catalog (http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance) and require appropriate documentation. Additional information can be found here:
https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

**STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT**

**Expectations Regarding Course Behavior**
You are expected to maintain a civil tone and respect the opinions of other posters. While commenting on others' posts is encouraged, aggressive or patronizing tone and language are unacceptable and may result in the loss of your posting and discussion privileges.

**Communication Guidelines**
You are required to contact the professor by email using the instructor's UF email address (KANE@UFL.EDU) for clarification and assistance with the course material and the assignments, and for special issues that may arise. Weekday morning/daytime (US Eastern Time) emails have the best chances of being answered quickly (i.e., within 24-48 hours).

**Academic Integrity**
Students are expected to act in accordance with the University of Florida policy on academic integrity. 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 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 additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details:

https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/
http://gradschool.ufl.edu/students/introduction.html

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

**Online Faculty Course Evaluation Process**
Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/.

**Policy Related to Guests Attending Class:**
Only registered students are permitted to attend class. However, we recognize that students who are caretakers may face occasional unexpected challenges creating attendance barriers. Therefore, by exception, a department chair or his or her designee (e.g., instructors) may grant a student permission to bring a guest(s) for a total of two class sessions per semester. This is two sessions total across all courses. No further extensions will be granted. Please note that guests are **not** permitted to attend either cadaver or wet labs. Students are responsible for course material regardless of attendance. For additional information, please review the Classroom Guests of Students policy in its entirety. Link to full policy: http://facstaff.phhp.ufl.edu/services/resourceguide/getstarted.htm

**SUPPORT SERVICES**

**Accommodations for Students with Disabilities**
If you require classroom accommodation because of a disability, it is strongly recommended you register with the Dean of Students Office http://www.dso.ufl.edu within the first week of class or as soon as you believe you might be eligible for accommodations. The Dean of Students Office will provide documentation of accommodations to you, which you must then give to me as the instructor of the course to receive accommodations. Please do this as soon as possible after you receive the letter. Students with disabilities should follow this procedure as early as possible in the semester. The College is committed to providing reasonable accommodations to assist students in their coursework.

**Counseling and Student Health**
Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.
- The Counseling and Wellness Center 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: http://www.counseling.ufl.edu. On line and in person assistance is available.
- You Matter We Care website: http://www.umatter.ufl.edu/. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: https://shcc.ufl.edu/
- Crisis intervention is always available 24/7 from:
  Alachua County Crisis Center:
  (352) 264-6789
  http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx

Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.

**Inclusive Learning Environment**
Public health and health professions are based on the belief in human dignity and on respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious and political values. We further believe that celebrating such diversity enriches the quality of the educational experiences we provide our students and enhances our own personal and professional relationships. We embrace The University of Florida's Non-Discrimination Policy, which reads, "The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act." If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see your instructor or refer to the Office of Multicultural & Diversity Affairs website: www.multicultural.ufl.edu