

University of Florida  
College of Public Health & Health Professions Syllabus  
SPA3800: Critical Review of Scientific Evidence (3 credit hours)  
Spring: 2023  
Delivery Format: Online Synchronous  
Class Day/Time: MWF 11:45-12:35

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Office Hours: Tuesday 10:30-12:30; or by appointment  
Preferred Course Communications: Canvas Email

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Prerequisites: STA2023 or more advanced statistics course

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**PURPOSE AND OUTCOME:**

Course Overview: This course is about critical evaluation of the conclusions and implications of scientific studies. A main focus will be how there is an interaction between how humans have evolved to process information and our current means of accessing information digitally. Whereas the examples will often be from the field of Speech, Hearing and Language Sciences, the course will include examples from across various fields. Some of the course will be devoted to learning the methods and concepts in scientific research. However, the majority of the course is devoted to a discussion of how to interpret scientific findings, how to determine if a question is scientifically answerable and how to use science to inform therapies and our everyday lives, based on newly published articles featured in the press. The course is designed to be extremely interactive both during class time and online outside of class. Opportunities for practicing critical thinking and intuition will be offered throughout in order to strengthen these mental abilities. In addition, participants will be provided opportunities to interact with scientists to appreciate their drive and passion and what questions they feel need to be answered in their field.

### ***Relationship to ASHA Standards:***

ASHA upholds specified standards related to academic and clinical training as well as continuing education. This course provides an introduction to the knowledge and skills of the required ASHA standards and *contributes* to the completion of the following standards:

### **ASHA Standards Covered (Audiology):**

IV-a11. Principles, methods, and applications of psychometrics IV-a18. Principles and practices of research, including experimental design, statistical methods, and application to clinical populations

### **ASHA Standards Covered (Speech Pathology):**

IV-F The applicant must have demonstrated knowledge of processes used in research and of the integration of research principles into evidence-based clinical practice.

V-A Demonstrated skills in oral and written or other forms of communication sufficient for entry into professional practice.

### **Course Objectives:**

Students will be able to:

- Differentiate between the types of questions that can potentially be answered by science and those that can't
- Identify what kinds of information are provided by scientific studies and what constraints exist
- Analyze popular reports of scientific findings for common errors
- Identify common violations of logic and interpretation errors
- Evaluate the challenges for critical analysis in the age of the internet and social media
- Identify the major types of evidence and discuss their strengths and weaknesses
- Describe the relationship between critical thinking and evidenced-based practice
- Demonstrate application of critical thinking skills by analyzing and evaluating controversial topics

## **Course Structure:**

Classes will generally be lecture/discussions of two types: 1) Descriptions of concepts and definitions in science and research; and 2) guest lectures by scientists at various stages in their careers. Both types of lectures are expected to be interactive with plenty of opportunity to ask questions and make comments. In addition, discussion will be continued on the UF elearning system. Students will be asked to comment on the lectures on elearning.

Our class sessions may be audio-visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

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**Textbook Requirement:** Browne, M., & Keeley, S. (2014). *Asking the Right Questions*; 11<sup>th</sup> Edition. (ISBN-13; 9780321907950). Pearson Education; Upper Saddle River, NJ.

Popular press articles as well as other sources (tutorial articles, web pages, etc.) will be posted on elearning. It will be the responsibility of the student to regularly check elearning to see when readings and assignments are available. Students are expected to be well-read, inquisitive, and opinionated regarding the relationship of critical thinking and scientific evidence.

## **ACADEMIC REQUIREMENTS AND GRADING**

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### **Criteria for Evaluation:**

**Weekly Assignments:** Students best learn critical thinking skills by practicing those skills in a variety of contexts using a variety of relevant materials. You will need a great deal of practice, but classroom time is limited. A truism about critical thinking is that it takes time—usually lots of time! Critical thinking, however, is an activity very different from a quick reproduction of stored ideas.

While in- class exercises can be very helpful, out-of-class homework assignments provide especially good opportunities for you to engage in deep reflective thought as you practice applying your critical thinking skills. **Weekly assignments should be submitted each Friday before 9:00 AM.**

**Weekly Online Discussion Questions:** Throughout the semester you will be asked to participate in weekly online discussion posts. These online discussion questions will help facilitate critical thinking goals promoted by each chapter. There will be an average of 4-6 discussion questions posted. You will be required to respond to a minimum of 2 of the original discussion question postings and reply to 2 of your classmates' postings. **All original postings are due each week on Tuesday at noon and all responses to your classmates' postings are due each week on Thursday at noon.**

**Midterm Exam:** There will be a midterm group presentation that will test knowledge of information from the readings and lectures as well as synthesis and application of this information to novel situations. The midterm will be short-answer and essay format.

**Final Position Paper/Literature Review and Oral Presentation:** The paper and presentation will be due Finals Week. This paper should be 6-8 pages and the oral presentation should be 15 minutes long. **\*\*All written assignments must be written in APA format, Times New Roman Font (size 12), double-spaced, and have one-inch margins around all sides. References must be included.** Instructions for the final paper and presentation are posted on the Canvas website.

**The course grade will be determined as follows:**

<b>Weekly Assignments</b>	<b>15%</b>
<b>Weekly Online Discussion Questions</b>	<b>15%</b>
<b>Group Midterm Presentation</b>	<b>15%</b>
<b>Final Position Paper/Literature Review</b>	<b>25%</b>
<b>Final Position Oral Presentation</b>	<b>20%</b>
<b>Class Participation</b>	<b>10%</b>
<b>Total</b>	<b>100%</b>

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

% earned	93 - 100	90 - <93	87 - <90	83 - <87	80 - <83	77 - <80	70 - <77	67 - <70	63 - <67	60 - <63	<60
Pts Earned	930 - 1000	900 - 929.9	870 - 899.9	830 - 869.9	800 - 829.9	770 - 799.9	700 - 769.9	670 - 699.9	630 - 669.9	600 - 629.9	0 - 599.9
Letter Grade	A	A-	B+	B	B-	C+	C	D+	D	D-	E

Please be aware that a C- is not an acceptable grade for graduate students. A grade of C counts toward a graduate degree only if an equal number of credits in courses numbered 5000 or higher have been earned with an A. In addition, the Bachelor of Health Science Program does not use C- grades.

**Letter grade to grade point conversions are fixed by UF and cannot be changed.**

For greater detail on the meaning of letter grades and university policies related to them, see the [Grading and Grade Policies](#) posted by the Registrar’s Office.

**Attendance:**

Attendance/ Participation: This class will be conducted via Zoom. There will be a quizzes corresponding to the lectures, so not participating will affect your grade. All faculty are bound by the UF policy for excused absences. For greater detail on excused absences, see the [Attendance Policies](#) posted by the Registrar’s Office.

**Policy Related to Make Quizzes, Assignments, or Other Work**

Personal issues with respect to grade or fulfillment of course requirements will be handled on an individual basis.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with [university policies that can be found in the online catalog from this link](#) unless otherwise noted in this syllabus.

**Policy Related to Technical Issues**

Any requests for make-ups due to technical issues **must** be accompanied by the ticket number received from the UF Computing Help Desk created when the problem was reported to them. The ticket number will document the time and date of the problem. You **must** e-mail me within 24 hours of the technical difficulty if you wish to request a make-up.

**Policy Related to Clinical Certification Standards:**

If you perform below expected levels on an assignment that is used to assess your attainment of a clinical certification standard, you may be asked to complete remedial work to demonstrate your competency in the particular area. The remedial work may take place after the course has been completed and your performance on the remedial work will be related to your overall attainment of the critical knowledge and skills objectives that are used in determining your suitability for clinical certification.

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

**Expectations Regarding Course Behavior**

***Etiquette and Professionalism***

All members of the class are expected to follow rules of common courtesy in all email messages, class discussions and activities. You are expected to arrive to be on time and to participate any time

you attend. Your engagement in class activities will be factored into the appraisal of your professionalism.

### **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 Codes](#) information at the Dean of Students Office website or the [Academic Expectations](#) information at the Graduate School website for additional details. 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 [Faculty Course Evaluations](#). 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.

**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 request the Classroom Guests of Students policy in its entirety.

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## **SUPPORT SERVICES**

### **Accommodations for Students with Disabilities**

If you require classroom accommodation because of a disability, you must register with the [Dean of Students Office Disability Resource Center](#) (DRC) within the first week of class. The DRC will provide documentation of accommodations to you, which you then give to me as the instructor of the course to receive accommodations. Please make sure you provide this letter to me by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.

### **Course Reserves**

As mentioned above, this course may utilize the electronic course reserve service offered by the George A. Smathers Libraries. Under the Rehabilitation Act and the Americans with Disabilities Act, students with disabilities have the right to equal access, use and benefit of the course materials that have been placed on reserve in the Libraries.

- Students who have registered with the University of Florida Disability Resource Center should initiate their request for assistance and accommodation in accessing these materials.
- The Center will work with the Libraries Course Reserve Unit to provide accessible course materials
- All information submitted by the student to the Libraries in fulfilling the request for accommodation will be kept confidential.

### **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. Online and in person assistance is available.

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 [Student Health Care Center](#) website. Crisis intervention is always available 24/7 from the [Alachua County Crisis Center](#) at (352) 264-6789.

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.

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### **INCLUSIVE LEARNING ENVIRONMENT** *(Optional)*

Public health and health professions are based on 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.





