

# **Introduction to Biological Research – 1 credit**

## **BSC 3453**

**Location: Sanson Science SC 119**

**Time: Fri 10:00 am - 11:50 am**

**Spring Semester 2017**

### ***Instructor:***

Dr. Evelyn Frazier (Sanson SC 212; 7- 561-297-4472; [efrazier@fau.edu](mailto:efrazier@fau.edu))  
Tuesday and Thursday 10am-12pm other times by appointment only.

**TAs:** Chelsea Bennice ([cbennice@fau.edu](mailto:cbennice@fau.edu))  
Ramon Garcia-Areas ([rgarci45@fau.edu](mailto:rgarci45@fau.edu))

**Office Hours:** By Appointment, please e-mail Chelsea or Ramon

### ***Prerequisite: By Application only***

**Preamble:** The Introduction to Honors Program in the department of Biological Sciences was built upon our experience from the Undergraduate Research and Mentoring Program funded by the National Science Foundation (Grant #0829250, 2009-2013). This program consists of two courses developed to introduce undergraduate students to research and develop the skills required to succeed in a career in research. This program aims to foster research experiences for undergraduate students, especially those of groups underrepresented in the sciences. The ultimate objective of this program is to prepare undergraduate students for a career in science. Scholars will identify potential research advisors in Spring and develop a research question. This program CANNOT guarantee that a student will be matched to a faculty member. Our job is to FACILITATE the matching by inviting faculty to talk to the group, but it is the STUDENT'S RESPONSIBILITY to establish a connection with a research faculty.

Students who have been matched to a research faculty and successfully completes the course -Introduction to Honors I, will be invited to register for Introduction to Honors II in summer. In summer students will dedicate 30 hours a week in their lab and two hours a week for our meetings for 10 weeks. Students will develop their independent research projects and present a draft of a research proposal by the end of summer. Scholars will also receive training in software, preparation of oral presentations, making posters, career training, etc.

### **Course Outcomes: After completion of this course students should be able to:**

1. Read, comprehend and analyze scientific writing

2. Understand and apply scientific concepts
3. Interpret scientific graphs and figures
4. Gain an understanding that the scientific discovery is an ongoing and dynamic process
5. Gain an understanding of ethics and responsible conduct in science
6. Communicate the ideas within the research project in a written proposal as well as an oral presentation.

**Course Objectives/Learning Outcomes: Students will learn to:**

1. Conduct a literature search, and navigate important research related websites.
2. Critically analyze scientific articles, as well as critique oral presentations
3. Utilize several software required for making presentations (e.g., Microsoft Office and Photoshop).
4. Complete laboratory safety training courses offered through the Environmental Health and Safety office
5. Write a research proposal and present it to the group.
6. Develop a research question found in current literature.

**Grading:** Satisfactory/Unsatisfactory. Attendance is required for the student to obtain a passing/satisfactory grade. If a student misses 3 or more meetings the student will receive an Unsatisfactory grade. Students who are late turning in assignments, or fail to turn in assignments will also receive an Unsatisfactory grade.

**Policy on makeup class work, late work, and incompletes**

Students will not be penalized for absences due to participation in University-approved activities, including athletic or scholastics teams, musical and theatrical performances, and debate activities. STUDENTS MUST PROVIDE DOCUMENTATION within one week of the absence. These students will be allowed to make up missed work without any reduction in the student's final course grade. Students have to contact the faculty and teaching assistants BEFORE these events to arrange for appropriate make-up arrangements that might include turning in the assignment earlier. Reasonable accommodation will also be made for students participating in a religious observance. Also, note that grades of Incomplete ("I") are reserved for students who are passing a course (with a C-) but have not completed all the required work because of exceptional circumstances. A grade of "I" will only be given under certain conditions and in accordance with the academic policies and regulations put forward in FAU's University Catalog. The student must show exceptional circumstances why requirements cannot be met. A request for an incomplete grade has to be made in writing with supporting documentation, where appropriate.

**Code of Academic Integrity policy statement**

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also

destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001. Plagiarism is a type of academic dishonesty and will be pursued as such. [http://www.fau.edu/ctl/4.001 Code of Academic Integrity.pdf](http://www.fau.edu/ctl/4.001%20Code%20of%20Academic%20Integrity.pdf)

**Instructions to students:**

Please turn in all your work as a Word document (.doc, not .docx) in SafeAssign through our Honors blackboard site. Your file should be named as follows: your name, the title of the work, and the date of submission, i.e. Garcia Research Poster 01-13-2012. Once the teaching assistant has made suggestions, we expect them to be incorporated in your paper. If you disagree with the suggestions, please talk to T.A. and explain your reasoning for not incorporating the suggested changes. Only final versions should be submitted to Dr. Frazier. We also expect our suggestions be incorporated on your final version. If you disagree with the suggestions, explain in writing, why you have chosen not to incorporate them in your final version. All final versions of your documents should be turned in through SafeAssign via blackboard.

**Grading:** Letter grade. For a student to receive HONORS DISTINCTION in their transcript they have to obtain an "A" in this course. The course grade will be based on evaluation of the following:

Attendance and Participation: 70 pts  
Written Assignments: 180 pts  
Seminar presentation summaries – 20 pts  
Oral Presentation: 30 pts

The grading scale is determined as:

Total Points	Percent	Final Grade
278-300	93-100	A
267-277	90-92	A-
260-268	87-89	B+
248-259	83-86	B
239-247	80-82	B-
230-238	77-79	C+
218-229	73-76	C
209-217	70-72	C-
200-208	67-69	D+
188-199	63-66	D
179-187	60-62	D-
000-178	00-59	F

An incomplete grade (I) will not be given in lieu of a grade of C or less. Appropriate documentation must be presented for justifiable absence from a class.

**Required Books/Supplements:** None

**Blackboard:** is an online educational program that ALL students enrolled in this class have FREE access to. All you need to do is go to <http://blackboard.fau.edu> and follow procedures to login.

**E-mail:** All students are required to check their FAU e-mails every day once a day. Your instructor as well as your TA will be communicating with you personally via e-mail. DO NOT have your FAU account forwarded to AOL or other e-mail sites because some messages will NOT make it through.

**E-mail Etiquette:** Wait 24 hours for a response to your e-mail. Do not expect anyone to reply during a weekend or holiday. When e-mailing your T.A.'s, faculty or staff at FAU, please write e-mails in a professional format. WE ARE NOT YOUR BUDDIES! We have a PROFESSIONAL relationship and you should be trained to correspond in a professional manner. Here are some suggestions: Greetings: refer to the faculty as Dr. Last Name, T.A.'s and FAU staff as Mr. LAST NAME or Mrs./Ms. LAST NAME; Subject line of the e-mail should include: Course name or number: e.g.introduction to Honors I or BSC4905; and ALWAYS write your FULL NAME.

**INNAPROPRIATE E-mail example:**” yo, what is my grade b4 the final?” NEVER USE abbreviations such as used in text messaging. No one should have to answer such an e-mail! Always include a greeting with the appropriate titles, and make sure to include your full name at the end of the email.

**Religious Accommodations:** Students who wish to be excused from class activities or examinations must notify the instructor in advance of their intention to participate in religious observation and request an excused absence. All coursework has to be made up.

**Disability policy statement**

In compliance with the Americans with Disabilities Act (ADA), students who require reasonable accommodations due to a disability to properly execute coursework must register with the Office for Students with Disabilities (OSD) -- in Boca Raton, SU 133 (561-297-3880); in Davie, LA 240 (954-236-1222); in Jupiter, SR 110 (561-799-8010); or at the Treasure Coast, CO 117 (772-873-3441) and follow their instructions.

## SCHEDULE OF ACTIVITIES

Week	Date	Activity	Homework	Due Date
Week 1 Chelsea Ramon	1/9/2017	1) Introduction, discussion of expectations and schedule 2) Discuss how to read a scientific paper 3) Researching faculty	1) Look up the names of the faculty you are interested in working with, read one research paper abstract of three faculty 2) Submit three faculty names and a brief description of their research	1/13
Week 2 Chelsea	1/16/2017	1) Introduction and discussion of areas of research interests, program activities and expectations 2) Finding scientific references. Using FAU library Services/Databases 3) How to email potential faculty advisors	1) Read one reference regarding a topic of research related to the research conducted by the faculty who will be giving the talk next week. 2) Write a two paragraph summary of the paper. In that summary answer the three concept questions and formulate three questions you will ask the speaker. -10 points	1/20
Week 3 Ramon	1/23/2017	Presentations, Speaker 1 & 2	1) Write a two paragraph paper on your understanding of the research questions and how they were addressed by this week's invited speaker – 10 points each 2) Read one reference regarding a topic of research related to the research conducted by the faculty who will be giving the talk next week. 3) Write a summary of this paper. In the summary, answer the three concept questions and formulate three questions you will ask the speaker. 10 points each	1/27
Week 4 Chelsea	1/30/2017	Presentations, Speaker 3 & 4	1) Write a two paragraph paper on your understanding of the research questions and how they were addressed by this week's invited speaker - 10 points each 2) Read one reference regarding a topic of research related to the research conducted by the faculty who will be giving the talk next week. 3) Write a summary. In the summary, answer the three concept questions and formulate three questions you will ask the speaker. 10 points each	2/3
Week 5 Ramon	2/6//2017	Presentations, Speaker 5 & 6	1) Write a two paragraph paper on your understanding of the research questions and how they were addressed by this week's invited speaker -10 points each 2) Read one reference regarding a topic of research related to the research conducted by the faculty who will be giving the talk next week. 3) Write a summary. In the summary, answer the three concept questions and formulate three questions you will ask the speaker. 10 points each	2/10
Week 6 Chelsea	2/13/2017	Presentations, Speaker 7 & 8	1) Write a two paragraph paper on your understanding of the research questions and how they were addressed by this week's invited speaker - 10 points each 2) Read one reference regarding a topic of research related to the research conducted by the faculty who will be giving the talk next week. 3) Write a summary. In the summary, answer the three concept questions and formulate three questions you will ask the speaker. 10 points each	2/17
Week 7 Ramon	2/20/2017	Presentations, Speaker 9 & 10	1) Write a two paragraph paper on your understanding of the research questions and how they were addressed by this	2/24

			<p>week's invited speaker -10 points each</p> <p>2) Read one reference regarding a topic of research related to the research conducted by the faculty who will be giving the talk next week.</p> <p>3) Write a summary. In the summary, answer the three concept questions and formulate three questions you will ask the speaker.</p> <p>10 points each</p>	
Week 8 Chelsea	2/27/2017	Presentations, Speaker 11 & 12	<p>1) Write a two paragraph paper on your understanding of the research questions and how they were addressed by this week's invited speaker - 10 points each</p> <p>2) Read one reference regarding a topic of research related to the research conducted by the faculty who will be giving the talk next week</p> <p>3) Write a summary. In the summary, answer the three concept questions and formulate three questions you will ask the speaker. - 10 points each</p>	3/3
	3/6/2017	<b>Spring Break</b>	<b>No Meeting</b>	
Week 9 Ramon	3/13/2017	<p>1) Discussion on possible research mentors</p> <p>2) Establish goals and expectations with your research mentor</p> <p>3) What makes a good poster</p>	<p>1) Identify the research mentor you would like to work with and write a summary on their research.</p> <p>10 points</p>	3/17
Week 10	3/20/2017	College of Science Research Day	<p>1) Write a summary on 2 poster presentations you liked and 2 poster presentations you disliked. Give reasons why. 10 points</p>	3/24
Week 11 Chelsea	3/27/2017	Practice Presentation by 2015 Honors Students	<p>1) Write a summary on presentations. Give written feedback to students.</p> <p>10 points</p>	3/31
Week 12	4/3/2017	Undergraduate Research Symposium FAU	<p>1) Begin preparation for 5 min presentation on your undergrad research project. Submit an outline of presentation.</p> <p>10 points</p>	4/7
Week 13 Ramon	4/10/2017	<p>1) 5 min presentation on your research topic/ project/ mentor – 30 points</p> <p>2) Discuss expectations for the summer</p>	None	4/14
Week 14	4/17/2017	Attend Honors Thesis Defense	None	
Week 15	4/24/2017	Attend Honors Thesis Defense	None	
Week 16	5/1/2017	<b>Good Luck on your Finals!!</b>	<b>No Meeting</b>	

ALL STUDENTS MUST ATTEND A MINIMUM OF 2 SCIENTIFIC SEMINARS (e.g., CMBB, BIOMED, NEUROSCIENCE) outside of the designated class time and submit 1 one page summary for each seminar. Seminar dates, times, and locations will be posted on blackboard – 10 points each