

## **IDS 4934 – Fundamentals of Research and Inquiry – 1 credit**

**Location: Sanson Science SC 180**

**Time: Mon 12:30pm- 2pm**

**Fall Semester 2016**

### ***Instructor:***

Dr. Evelyn Frazier

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

1. Ability to understand how academic research is conducted and critically analyze scientific research (a,b,e,f,h,i,j,k). Interpret scientific graphs and figures
2. Ability to maintain a safe laboratory environment with proper safety training (a,b,d,e,f,g,h,i,j,k)
3. Ability to identify and approach potential faculty mentors about undergraduate research (d,e,g,h,i,j,k)
4. Ability to navigate important research related reference materials and apply ethical conduct skills (a,b,e,f,g,h,i,j,k)
5. Ability to identify and apply for additional research opportunities (summer internal, external, graduate school, etc.) (d,e,g,h,i,j,k)
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. Develop a research question founded in current literature.

**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 48 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.

**University Attendance Policy:** Attendance is REQUIRED and not optional. “Students are expected to attend all of their scheduled university classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grade is determined by the instructor.” (University Catalogue). This is a small group and we will know when someone is absent. If you know in advance that you will be absent, or need accommodations for religious reasons, or university related travel to athletic events or conferences you need to contact the instructor of the course to make arrangements with at least one week in ADVANCE. If you have a last minute emergency contact the faculty via email and let us know why you were absent. Students will HAVE to submit documentation to excuse absences. It is your responsibility to attend class, submit your work on time, and follow directions for the assignments. If you do all of these things, it will be reflected in your grade for this course. Points will be deducted for absences, tardiness, late work, and not following directions. Students who miss classes without justification given within one week will lose the right to make-up the work. IF A STUDENT will have to miss a class AND has documentation, the student is still responsible for submitting ALL homework by the deadlines or points will be deducted from the grade. IF you have a special situation please contact us, not showing up for class, and not contacting us IS NOT professional behavior and is NOT an option. It is also the student’s responsibility to contact other students in the class to learn about material covered in class.

### **Faculty Expectations of Students:**

This course is structured to develop your scientific written and oral skills, among other research skills. The lectures will be based on your own work. Students will be required to submit homework to BB weekly AND bring a hard copy of specific work to be discussed in class, and at other times will be instructed to read scientific articles at home to discuss in class. IF students DO NOT do their homework and come to class UNPREPARED it will become REALLY obvious to everyone that the student is not putting any effort into the course. “Be prepared and be professional”. Your performance in this course will be proportional to the effort that you put into the course. If you are unprepared for class, your participation will suffer and you will NOT learn much. But if you are prepared for class you will learn a great deal. We will be watching you and reading your work every week.

### **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. Other situations will be discussed in a case -by - case manner with instructor who will decide on suitable to make up assignments for 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.

### **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 names as follow: 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.

### **Course Assessment**

The course will be assessed by way of three tools with pre and posttests/evaluations. Critical Thinking skills will be assessed in pre and post CAT tests. Written skills will be evaluated by selection of one written summary of a faculty presentation assignment. Oral skill development will be evaluated by oral presentations. The activities in the course will be evaluated by a focus group conducted by Dr. Nancy Romance

CAT test – Week 1

Written assignment – Week 7

Oral Presentations – Weeks 14-16

Focus Group – Week 17

**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.

**Grading:** Letter grade. The course grade will be based on evaluation of the following:

Attendance and Participation: 70 pts

Written Assignments: 170pts

Oral Presentation: 30 pts

Portfolio: 20pts

CAT test: 10pts

FOCUS group: 10pts

***The grading scale is determined as:***

Total Points	Percent	Final Grade
278-310	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

### SCHEDULE OF ACTIVITIES

Week	Date	Activity	Homework	Due Date
Week 1	Aug 22	1) Introduction, 2) Expectations and schedule 3) How to find researchers at FAU 4) CAT test in class (15 pts) (Attendance & Participation 5pts)	1) Look up the names of three faculty you are interested in working with, read one research paper abstract for each of the three faculty 2) Submit three faculty names and a brief description of their research (10 points) (Place a hard copy of ALL your work in the portfolio)	Fri , Aug 26 <sup>th</sup> at 12pm in BB
Week 2	Aug 29	1) What is Science? 2) How to dissect a research paper (E) 3) How to identify and reach out to a research mentor (A&K) (Attendance & Participation 5pts)	1) Dissect the research paper assigned to you and submit a summary to BB (10pts) 2) Draft a professional email that you will send the faculty that you have selected. Submit to BB and bring a hard copy to class to be exchanged with your classmates (5pts) 3) Find the guidelines for the OURI undergraduate research grant and bring it to class (5pts) (Place a hard copy of ALL your work in the portfolio)	Mon , Sep 5 <sup>th</sup> at 12pm in BB
Week 3	Sep 5 Labor Day Holiday	No classes	No hwk You may want to start the homework for week 4 while you can.	
Week 4	Sep 12	1) Peer review of professional email 2) Working with Faculty and graduate students (E) 3) OURI UG research grant application process (J) (Attendance & Participation 5pts)	1) Read the scientific papers assigned by each of the faculty who will be giving the talk next week. 2) Write a one paragraph summary of each of the papers. In that summary answer the three concept questions and formulate three questions you will ask the speaker -10 pts each 3) Send email to prospective research mentors (Place a hard copy of ALL your work in the portfolio)	Fri , Sep 16 <sup>th</sup> at 12pm in BB
Week 5	Sep 19	Presentations: Speaker 1 & 2 (Attendance & Participation 5pts)	1) Write a one paragraph paper on your understanding of the research questions and how they were addressed by ONE of this week's invited speaker -10 points 2) Read the scientific papers assigned by each of the faculty who will be giving the talk next week. 3) Write a two paragraph summary of each of the papers. In the summary, answer the	Fri , 23 <sup>th</sup> at 12pm in BB

			<p>three concept questions and formulate three questions you will ask the speaker -7.5 pts each</p> <p>(Place a hard copy of ALL your work in the portfolio)</p>	
Week 6	Sep 26	<p>Presentations: Speaker 3 &amp; 4 (Attendance &amp; Participation 5pts)</p>	<p>1) Write a one paragraph paper on your understanding of the research questions and how they were addressed by ONE of this week's invited speaker -10 points</p> <p>2) Read the scientific papers assigned by each of the faculty who will be giving the talk next week.</p> <p>3) Write a summary of each paper. In the summary, answer the three concept questions and formulate three questions you will ask the speaker – 7.5 pts each</p> <p>(Place a hard copy of ALL your work in the portfolio)</p>	<p>Fri , Sep 30<sup>th</sup> at 12pm in BB</p>
Week 7	Oct 3	<p>Presentations: Speaker 5 &amp; 6 (Attendance &amp; Participation 5pts)</p>	<p>1) Write a one paragraph paper on your understanding of the research questions and how they were addressed by ONE of this week's invited speaker -10 points</p> <p>2) Read the scientific papers assigned by each of 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 – 7.5 pts each</p> <p>(Place a hard copy of ALL your work in the portfolio)</p>	<p>Fri , Sep 7<sup>th</sup> at 12pm in BB</p>
Week 8	Oct 10	<p>Fall Break No class</p>	<p>1)Contact possible research advisor and discuss possible research project</p>	
Week 9	Oct 17	<p>Library Skills (Attendance &amp; Participation 5pts)</p>	<p>Find 3 research articles authored by your advisor or in the same field as your research project. Properly list them on a word document and post it to BB as hwk (5pts)</p> <p>(Place a hard copy of ALL your work in the portfolio)</p>	<p>Fri , Oct 14<sup>th</sup> at 12pm in BB</p>
Week 10	Oct 24	<p>Laboratory Safety and Etiquette Haz waste Biosafety IACUC/IRB issues Research Ethics</p>	<p>1) Submit to BB a list of Research scholarships, internships or grant opportunities. Download the guidelines and bring a hard copy to class on Nov 7<sup>th</sup> (5pts).</p>	<p>Fri , Oct 28<sup>th</sup> at 12pm in BB</p>

		(Attendance & Participation 5pts)	<p>2) Write a draft of your resume in a CV format (as provided in the example) (5pts)</p> <p>3) Ask you advisor about all training required to conduct the research project and submit as a list onto BB</p> <p>(Place a hard copy of your training certificates in the portfolio)</p>	
Week 11	Oct 31	<p>1) Discussion on possible research mentors (break in groups A&amp;K)</p> <p>2) Cootie bug activity (J)</p> <p>3) Establish goals and expectations with your research mentor (E)</p> <p>4) OURI UG research grant and other opportunities (OPTIONAL)</p> <p>(Attendance &amp; Participation 5pts)</p>	<p>1) Discuss and draft a research project and a timeline of activities with your research mentor – 10pts</p> <p>2) Discuss and complete the mentor –mentee agreement with your research mentor – 10pts</p> <p>3) Bring your up to date portfolio to class for evaluation (10 pts)</p> <p>(Place a hard copy of ALL your work in the portfolio)</p> <p>(Place a hard copy of ALL your work in the portfolio)</p>	Fri , Nov 4th at 12pm in BB
Week 12	Nov 7th	<p>1)Resume/CV writing and LinkedIn (A&amp;K)</p> <p>2) Evaluate applications (discussion in class)</p> <p>(Attendance &amp; Participation 5pts)</p>	<p>1) Draft your CV and create a LinkedIn account</p> <p>2) Prepare applications for the opportunities that you have identified (Optional)</p> <p>(Place a hard copy of ALL your work in the portfolio)</p>	Fri , Nov11 <sup>th</sup> at 12pm in BB
Week 13	Nov 14	<p>1) What makes a good powerpoint presentation; (K)</p> <p>2) What makes a good poster, critiquing a poster (A)</p> <p>(Attendance &amp; Participation 5pts)</p>	<p>Submit a critique of 4 posters of your choice (many of them in the hallways of the Sanson building, Chemistry and Biomed Buildings) (10pts)</p> <p>(Place a hard copy of ALL your work in the portfolio)</p>	Fri , Nov 17 <sup>th</sup> at 12pm in BB
Week 14	Nov 21	<p>5 min presentation on your research topic/ project/ mentor</p> <p>(Attendance &amp; Participation 5pts)</p>	<p>None</p> <p>(Place a hard copy of your PowerPoint presentation in the portfolio)</p>	Practice
Week 15	Nov 28	<p>5 min presentation on your research topic/ project/ mentor</p>	<p>None</p> <p>(Place a hard copy of your PowerPoint presentation in the portfolio)</p>	Practice

		(Attendance & Participation 5pts)		
Week 16	Dec 5th	<b>Focus group with Dr. Romance (15pts)</b> (Attendance & Participation 5pts) (Attendance & Participation 5pts)	Bring your portfolio for evaluation in the next class (10pts)	Practice
Winter Break			<b>Take ALL training required to work in your lab and start your poster template</b>	