**Introduction to Research**

**Spring 2014, Tuesdays 2:05-2:55, CULC XXX**

**1 credit hour (letter grade)**

**Instructor:**

Dr. Jennifer Leavey

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365A CULC

Office Hours, TR 9-11am or by appointment

***Course Purpose:***

This course was created for students in their first semester of undergraduate research or students planning to conduct undergraduate research. This course will satisfy research ethics requirements for funding through the NSF, NIH or PURA awards and will also help students develop research skills and explore career options in research.

***Course Description:***

The course will meet once a week for an hour. There will be no tests, but there will be assignments either due as homework or completed in class each week. Class time will consist of brief lectures, small group discussions, activities and student-led presentations.

***Course Goals and Learning Outcomes:***

Upon completing this course, students should:

* Be aware of the ethical guidelines for conducting research in their field
* Be able to find, read and understand the research literature in their field
* Know how to go about writing original research articles
* Know the prerequisites for graduate school, ways to make their application competitive, and how to go about looking for a graduate program
* Be aware of career options in research

***Grading:*** The course will be graded on a basis of 100 points:

90 or higher = A 80-89 = B 70-79 = C 60-69 = D 59 or lower = F

***50% Homework and activities***

***20% Student case study presentation***

***30 % RCR final exam\****

You must attend a minimum of 80% of the seminars to pass the course. Lateness (i.e., >5min) will count as absence.

***RCR final exam***

Users should visit [www.citiprogram.org](http://www.citiprogram.org) to register for a user name and password. Students should complete all the required modules and check the grade book. A minimum score of 70% is required. Users should complete the confirmation form and submit. **Be sure to print a copy of the certificate and provide to the instructor.**

***Text****:*

Online: National Academies Press, “On Being a Scientist,” (Third edition, 2009), [*http://www.nap.edu/openbook.php?record\_id=12192&page=1*](http://www.nap.edu/openbook.php?record_id=12192&page=1)

***Important websites:***

http://researchintegrity.gatech.edu/rcr-policy/ (GT RCR policy and modules)

***Course expectations and guidelines:***

Students are required to attend class. Students absent from class will earn a zero on the day’s activity or homework. Students with institute approved absences will be given a suitable substitute assignment.

Please see [*www.honor.gatech.edu*](http://www.honor.gatech.edu) for Georgia Tech’s Academic Honor Code, which you are required to uphold.

**Course information will be posted on tsquare.gatech.edu .**

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| **Date** | **Topic** | **Assignment Due** |
| **8-Jan** | **RCR: Introduction of Responsible Conduct of Research (RCR);Professional Organization’s Ethics Guidelines; Societal Impacts** | **PRE-survey (on T square)** |
| **15-Jan** | **RCR: Misconduct in research, conflict of interest, mentorship, lab safety (Right to Know)** | **Prof. Org. Ethical Guidelines assignment** |
| **22-Jan** | **RCR: Human/animal subjects research, export control, "dual use"** | **Informed consent activity (completed in class)** |
| **29-Jan** | **RCR: Data acquisition; management, proper record keeping, sharing and ownership of data and collaborative research** | **Intellectual property activity (completed in class)** |
| **5-Feb** | **RCR- Case Study-Student Presentations** | **Presentation/ peer evaluations** |
| **12-Feb** | **RCR- Case Study-Student Presentations** | **Presentation/ peer evaluations** |
| **19-Feb** | **RCR- Case Study-Student Presentations** | **Presentation/ peer evaluations** |
| **26-Feb** | **Scientific Literacy: Databases (PubMed, SciFinder Scholar)** | **Case Study notes and reflection** |
| **5-Mar** | **Scientific Literacy: Dissecting a scientific paper** | **Literature Search** |
| **12-Mar** | **Scientific Literacy: Writing (Overview, Introductions, RCR: authorship, peer review, plagiarism)** | **Citation activity (completed in class)** |
| **26-Mar** | **Scientific Literacy: Writing (Experimental, Figures, Tables)** | **Figure Assignment** |
| **2-Apr** | **Scientific Literacy: Writing (Results, Discussion)** | **Discussion Activity (Completed in class)** |
| **9-Apr** | **Careers: Academia** | **Grad School Questionnaire** |
| **16-Apr** | **Careers: Government** | **Career Reflection** |
| **23-Apr** | **Careers: Industry** | **POST survey and CIOS** |

**Due 4/26 by 5:00pm: Citi Program Certificate**