BIOL/CHEM/EAS/MATH/PHYS 2801 – Resources for Future Scientists
Spring 2013, Tuesdays 12:05-12:55, MoSE 1224
1 credit hour (letter grade)

Instructor:
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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 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*

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* for Georgia Tech's Academic Honor Code, which you are required to uphold.

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

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