iSearch: Illuminating Identity

ECS 190  | Fall 2012 | 1:00-2:15 T/Th | 401 Emerson Hall

Course Description

Freshman year is the time to begin your iSearch! In a series of introductory modules, we will explore research conducted across many subjects at Emory by engaging in interactive demonstrations, excursions, and discussions. Using the latest "Apps", we will illuminate the research process so you can begin to answer your own questions.

This course is divided into five 2-week modules, taught by teacher-scholars (TS) from five different disciplines. Each TS will detail their specific discipline and how their research is conducted. We will discuss aspects of the research process, such as formulating questions, designing a project, and synthesizing results, from the viewpoint of five different fields. This will support students in designing and carrying out their own research project as a group throughout the semester. Each research group will have a mentor, but all TSs are available for support throughout the semester. The course will include readings, discussions, field trips, demonstrations and experiments.

Course Instructors

Bentley (Ginger) Gibson  bentley.gibson@gmail.com  Psychology
Laura Gray  lgolick@emory.edu  Physics
Fernando Esquivel  fernando.esquivel.s@gmail.com  Spanish
Victoria (Vicky) Templer  victoria.templer@emory.edu  Psychology
Diane Wiener  dwiener@emory.edu  Biophysics

Office Hours

Office hours are by appointment only. Please contact any of the TSs at least 24 hours in advance to schedule an appointment.

Course Readings and Course Website

No textbook is required for this class. Readings will be announced in class and distributed via Blackboard, so please consult the site accordingly.
Course Requirements

Assignments (Total 100%) Percentage

Attendance/Participation 20%
Individual Module Assignments 30%
Group Project 50%
  Project Benchmarks 25%
  Final Group Presentation 10%
  Individual Paper 10%
  Peer Evaluation 5%

Grading Rubric

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<tr>
<th>Grade</th>
<th>Minimum Percentage</th>
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<tr>
<td>A</td>
<td>93%</td>
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<tr>
<td>A-</td>
<td>90 - 92%</td>
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<tr>
<td>B+</td>
<td>87 - 89%</td>
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<td>B</td>
<td>83 - 86%</td>
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<td>&lt; 60%</td>
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Grade Changes

Unless in the event of an obvious error or oversight, grades on assignments are final. Grades will not be discussed before, during, or after class. If you would like to discuss a grade, email one of the TSs to schedule an appointment.

Attendance/Participation (20%)

Your attendance to this class is mandatory. You are allowed two unexcused absences over the course of the semester, but be advised that you will not receive participation points for the days you are absent. For every unexcused absence after the allotted 2, your final grade will drop by 5%. Class will begin promptly on time. If you miss class, you are responsible for the material covered upon returning to class, please contact another class member or a TS about what you missed.

This classroom is an interactive learning space and as such your individual contributions are essential to the overall success of the course. Participation includes both raising questions and comments in group discussions and being respectful of your colleagues by actively listening.

Individual Module Assignments (30%)

Each module consists of 4 or 5 class days taught by one of the TSs. Assignments will help students grasp the central concepts of the module and the course. It is therefore imperative that students complete all readings and assignments on time and come to class prepared for discussion. Preparedness includes having read the required readings and bringing a digital and/or printed copy of the assigned reading in class on the day of the discussion, as well as any additional assigned materials. Assignments that require posting to Blackboard are due by midnight the night before the day of class. Late assignments will not be accepted, except in the cases of illness, family emergencies, or other verifiable occurrences.

Course Requirements (cont.)

Group Project (50%)
A rubric discussing the details of the group project and important due dates will be passed out on the first group work day.

Each student is required to complete a group research project which makes up the bulk of the course grade. Each group will be assigned to one of the five TSs who will offer support throughout the semester. Your mentor will answer any questions that group members have about the course and help develop the group’s final project. Benchmark assignments along the way will make up 25% of the total course grade and will keep groups on the right track as they propose their own research question, develop an experimental method to answer the question, and collect and analyze their results. In addition to the group's benchmarks and final presentation (10% final grade), student's individual contributions will be assessed by an individual paper (10% final grade) which will be turned in at the end of the semester as well as feedback from your fellow group members (5% final grade). For the project, students may choose a question/topic in any field of research, including, but not limited to, the fields of biophysics, biology, chemistry, physics, neuroscience, animal behavior, psychology, sociology, religion, cultural studies, and philosophy. The research project offers a wonderful opportunity to explore and develop your own field and/or other fields of interest, so please think broadly and creatively about your research question and presentation.

**Due Dates**

Please note: Module assignments and readings will be assigned in class and on Blackboard. These due dates are not included below.

**Project Benchmarks**

1. Formulation of research question and hypothesis **Monday, September 17**
2. Annotated bibliography **Monday, October 1**
3. Proposed research methods **Wednesday, October 17**
4. Data collection **Wednesday, November 7**
5. Data analysis **Monday, November 19**

All project benchmarks should be **posted to Blackboard by midnight of the dates listed above**. Only one copy per group needs to be submitted.

**Individual Paper**

Turn in printed copy at the beginning of the last day of class **Tuesday, December 11**.

**Peer Evaluation**

Completed in class during the exam period **Tuesday, December, 18 4:30 – 7:00 PM** in Emerson 401.

**Final Group Presentation**

Presentations will be during the exam period **Tuesday, December, 18 4:30 – 7:00 PM** in Emerson 401. Please make travel arrangements for winter break accordingly.
**Course Topics**

**Social Psychology** - *Ginger Gibson* - Race to the finish line to know your attitudes. How has race impacted what you do, say, think, and who you hang around? We must fully understand the way race affects our lives in order to find ways to better understand ourselves and others.

**Polymer Physics and Solar Cells** - *Laura Gray* - How can we harness the energy of the sun? As the need for alternative energies grows, how can basic research contribute? We'll learn about the fundamental science behind plastic solar cells, experiment with actual devices, and discuss the interaction between scientific research and public policy.

**Latin American Cultural Studies** - *Fernando Esquival* - Got stories? How do stories make history? The stories told in movies, literature, dance, advertising, and sports organize our social life. We search them to observe how to create our biggest unit of social relation: race and nation.

**Neuroscience and Animal Behavior** - *Vicky Templer* - The evolution of mind and memory. What makes us different from our closest primate relatives? To define ourselves, many humans look to our memories of ourselves and to our relationships with others. How did our memory systems, consciousness, and condition evolve? We will explore these questions scientifically, philosophically, and behaviorally as we do some iSearching ourselves.

**Biophysics** - *Diane Wiener* - What if biologists were engineers but didn't know it yet? Proteins are molecular machines which we must reverse engineer in order to understand how they really work. We'll study these nanomachines, their influence on identifying the genes that define us, and their applications in biotechnology.
**Class Policies**

**Cell phones:** No cell phone use, including texting, in class. If your phone rings in class, you must stand up immediately and start busting some moves for 1 minute. If your cell phone doesn't have a ring tone, the default song is "Billy Jean", which we will play. This applies to students and TSs.

**All electronic devices:** Computers and tablets are allowed for note-taking, viewing articles, and classroom research. Please only use computers for classroom activities as other use will distract you and the students around you. If we do find you interacting with any electronic device for non-class related reasons, you must dance to "Thriller" for 1 minute.

**Important Student Information**

**Academic Honesty:** Plagiarism or academic dishonestly in any form will not be tolerated in any form. Any plagiarized work will receive 0 points. You are expected to conduct yourself with academic integrity and honesty at all times. Failure to follow these guidelines is a violation of the Emory University Honor Code and will result in disciplinary action. Please see the complete version of the honor code for more information: http://college.emory.edu/home/academic/policy/honor_code.html

**Student Health and Counseling Services:** College is a stressful time and the staff and doctors at Student Health know this and can help you out! They offer free, confidential counseling for all students. If you need help, please visit http://studenthealth.emory.edu/, call (404) 727-7450, or ask any of the TSs to help you get in contact with Student Health.

**Students with Disabilities or Special Needs:** The Office of Disability Services provides a variety of important services for students who need assistance. Please remember that for the purposes of assignment accommodations, University policy requires that you register with the Office of Disability Services (404-727-9877), or visit http://www.ods.emory.edu/. You must provide paperwork to us by the end of the second full week of class.

**Undergraduate Research Opportunities:** Undergraduate students are highly encourage to conduct research. The University has several opportunities for research and funding support. Visit http://college.emory.edu/home/academic/research/index.html, speak with your particular department coordinators, or any of the Teacher/Scholars for more information.