IB 150
James Scholar Seminar

Spring 2018
Time: Wednesday 3:00 – 4:50 pm
Room 2083NHB
Section AD9

Instructors:
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Webpage: Moodle
(https://learn.illinois.edu/auth/shibboleth/gateway.php)

Overview:
Welcome to the James Scholar Section of IB 150! In this section, we will spend time each week focusing on the following three main goals:

1) Increasing your skills related to scientific literacy
2) Identifying “Grand Challenges” in Biology and explaining how scientists (including undergraduates) at UIUC are working to address them
3) Recognizing resources available at UIUC that will aid you in solving grand challenges and training you to be future leaders in scientific literacy

You will be responsible for completing all assignments given to you in IB 150. You will also receive additional James Scholar homework.

To receive your James Scholar designation you must complete an Electronic Honors Credit Learning Agreement (EHCLA).

General Course Policies: The course follows all policies and expectations outlined in the Student Code http://admin.illinois.edu/policy/code/.

Accommodations: Please notify Dr. Cáceres and Dr. Clegg (the sooner the better) if you require special accommodations. University policy regarding special accommodations is listed in Article I-110 of the Student Code.
Academic Integrity/Plagiarism: Article I, Part 4 of the Student Code explains the University (and course) Policy on Academic Integrity. Section I-401 b states “Students have been given notice of this rule by virtue of its publication. Regardless of whether a student has actually read this rule, a student is charged with knowledge of it. Ignorance of a rule is never a defense.” If there is anything in the Student Code that you feel you do not fully understand, please contact your instructor.

Structure and expectations: All students will attend one class each week. The learning will be as active as possible. For some weeks, you will also be given a reading assignment and on-line assignment to be completed prior to coming to class. Attendance is required and you will not be allowed to complete the in-class assignments associated with unexcused absences. Excused absences are given for observing a religious holiday that falls on the day of the class, a medical emergency or tragedy in your immediate family or serving as a volunteer emergency worker as defined in the Volunteer Worker Job Protection Act. Please let us know in advance if you will miss a class to observe a religious holiday. All other requests for an excused absence must be accompanied by documentation from the Student Attendance Center. If you miss an assignment as the result of an excused absence, you will be allowed to complete a make-up assignment. Depending on the length of your absence, we will determine the amount of time you have to complete the work. No credit will be given for assignments missed due to unexcused absences.

Please respect the learning environment of your classmates. Please refrain from activities that are disruptive or distracting to other students (talking, arriving late/leaving early, websurfing, watching videos, etc.). Be prepared to be an active participant in group activities.

Assignments: Points assigned from the discussion manual for IB 150 are required and will be applied in the calculation of your letter grade in IB 150.

The specific assignments of the James Scholar seminar are worth 250 points. You must earn at least 200 points to receive your honors credit. These additional points WILL NOT be used in the calculation of your IB 150 grade. You must complete an Electronic Honors Credit Learning Agreement (EHCLA).

In class work: 100 points, week 2 – week 9, and week 11: 10 points each week

Homework: 60 points
2 points each week for current events (maximum 20 points)
40 points for paper-related work (other than final paper)

Poster: 40 points
20 points group work (10 points each for weeks 13 & 14)
20 points presentation

Final Paper 50 points
Tentative Schedule

Week 1: Introduction and Science of Life
    What defines a research University?
    What are “Grand Challenges” in Biology?
    How do I use all available resources to prepare myself to be a future leader in addressing these “Grand Challenges”?
    What do I have to do to be successful in this seminar?

Week 2: Forming a research question and using primary literature

Week 3: Hypothesis workshop

Week 4: Grand Challenge semester projects
    Homework 1 assigned - Reading assignment and associated on-line work. Reading TBD based on recent publication related to your semester project. Due at start of Week 6 discussion

Week 5: Semester Projects – questions, hypotheses, literature search

Week 6: Semester projects - hypotheses, predictions.
        Homework 1 due at beginning of class

Week 7: Semester projects - hypotheses, predictions
        Part I due by midnight

Week 8: Semester projects – Dealing with feedback
        hypotheses, predictions and experimental design

Week 9: Research proposal peer review

Week 10: Spring Break

Week 11: Current events
        Part II - Experimental Design due by midnight Friday night

Week 12: IB faculty and IB undergraduate research – rapid evolution, climate change, ecosystem services, food and fuel production, human health

Week 13: Work on final presentation and paper
        Part III – Complete first draft due by midnight Friday night

Week 14: Work on final presentation and paper

Week 15: Final poster presentations
**Weekly homework:** Each week (starting with week 2), by 11:55 pm on Tuesday, you will need to post a 2-3 sentence summary of current biological research that has been published in a peer-reviewed journal and is featured on the Science magazine news page (http://news.sciencemag.org/). Skills that you will practice here is finding and reading primary literature

Read the blog post and find the link to the recently published journal article. **YOU MUST THEN FOLLOW THE LINK TO THE ACTUAL PAPER.** If you can’t find the paper, pick another blog post.

Read the abstract of that journal article and compare it to the blog post. Write your own 2-3 sentence summary of the major findings of the paper. DO NOT simply copy text from either the blog post or the abstract. This is plagiarism and will be treated as such (see section on academic integrity).

We will show you where in Moodle to post your answers.

Another goal here is to teach you to cite scientific publications correctly. Each journal has a different style, and you may use the style of the journal in which your paper was published. **BE SURE TO LOOK AT THE REFERENCES OF THE PAPERS YOU ARE CITING TO GET AN IDEA OF HOW TO CITE SCIENTIFIC PAPERS.**

You must list:
The 1st author of the study (last name, followed by initials).
If only 2 authors, also list the second author. If >2, list “et al.”
The year of the publication
The title of the article
The name of the journal
The volume of the journal
The page numbers (if actually in print). If not in print yet, list the DOI

Comment on one other summary.

Be sure you are selecting an article from the primary literature. Occasionally the blog posts will be about current events. These are not eligible for the homework.

**Example:**

The tools and technologies for genetic engineering continue to increase. Ostrov et al. made 62,214 DNA changes to a synthetic *E. coli* genome. They changed seven codons with their synonymous alternatives. The scientists determined that 91% of genes with these changes maintained their function in 91% and only 13 changes were lethal. One goal of this research is to create genomes with functions not typical found in nature.
Run > Hide > Fight
Emergencies can happen anywhere and at any time. It is important that we take a minute to prepare for a situation in which our safety or even our lives could depend on our ability to react quickly. When we’re faced with almost any kind of emergency – like severe weather or if someone is trying to hurt you – we have three options: Run, hide or fight.

**Run**
Leaving the area quickly is the best option if it is safe to do so.
- Take time now to learn the different ways to leave your building.
- Leave personal items behind.
- Assist those who need help, but consider whether doing so puts yourself at risk.
- Alert authorities of the emergency when it is safe to do so.

**Hide**
When you can’t or don’t want to run, take shelter indoors.
- Take time now to learn different ways to seek shelter in your building.
- If severe weather is imminent, go to the nearest indoor storm refuge area.
- If someone is trying to hurt you and you can’t evacuate, get to a place where you can’t be seen, lock or barricade your area if possible, silence your phone, don’t make any noise and don’t come out until you receive an Illini-Alert indicating it is safe to do so.

**Fight**
As a last resort, you may need to fight to increase your chances of survival.
- Think about what kind of common items are in your area which you can use to defend yourself.
- Team up with others to fight if the situation allows.
- Mentally prepare yourself – you may be in a fight for your life.

Please be aware of people with disabilities who may need additional assistance in emergency situations.

**Other resources**
- [police.illinois.edu/safe](http://police.illinois.edu/safe) for more information on how to prepare for emergencies, including how to run, hide or fight and building floor plans that can show you safe areas.
- [emergency.illinois.edu](http://emergency.illinois.edu) to sign up for Illini-Alert text messages.
- Follow the [University of Illinois Police Department](http://University of Illinois Police Department) on Twitter and Facebook to get regular updates about campus safety.