Synthesis and Evaluation of Scientific Literature

CSIE 377
9:30-10:20, Fridays

INSTRUCTOR INFORMATION

Anne Casper – Office: MJ 401S, Phone: 487-0212, email: anne.casper@emich.edu
Office hours: Tuesdays, 1-5pm or by appointment

Harriet Lindsay – Office: MJ 239C, Phone: 487-2124, e-mail: hlindsay@emich.edu
Office hours: TR 11 am-12:30 pm or by appointment

COURSE GOAL AND LEARNING OUTCOMES

This course will allow you to learn the process of using the scientific literature to better understand and communicate your undergraduate research project. However, you should be able to apply the process you learn in this course to any project. By successfully completing this course, you will be able to:

1. Find and evaluate scientific literature relevant to your research
   - Conduct effective and efficient searches
   - Explain how scientific literature is organized
2. Utilize literature sources to support research goals
   - Extract information from the literature and explain how it relates to your own research
3. Communicate research goals and their significance
   - Clearly describe your research goals
   - Explain the significance of your research goals and the validity of the proposed research approach in the context of current research in the field
   - Effectively communicate and evaluate relevant information from peer presentations and assignments.

WEBSITE/COURSE RESERVES

TBA

TEXT

No text is required. Electronic materials will be used as primary sources for lectures. However, we will select resources for the disciplines represented in this class. These will be on reserve in the library.
ASSIGNMENTS

General Information:
- Because this course should help you improve your literature searching, evaluating, and communicating skills, revisions will be allowed (and required!). However, the extent to which you may improve your grade through revision will depend largely on your initial effort. While we don’t expect you to get it right the first time, we do expect you to give your best effort and to follow directions. You will be graded accordingly.
- Specific rubrics will be given for each assignment except for the literature searching exercises. You will be expected to follow these rubrics closely in preparing your first draft of each assignment.
- You should keep in mind that each written assignment builds on the previous one. You will use your search results to construct your annotated bibliography and your annotated bibliography entries to write your introduction (see below for assignment details).

Course learning outcomes and corresponding assignments: (detailed instructions for each assignment will be provided during the semester – see last page for sample)

1. Find and evaluate scientific literature relevant to your research
   - Conduct effective and efficient searches

Assignment: Literature searching exercise:

Beginning with keywords related to your research, you will conduct searches using discipline-appropriate databases. You will be expected to document your search as you would a laboratory procedure and answer specific questions about your search and the results.

   - Explain how scientific literature is organized

Assignment: Evaluating your search results exercise:

You will be expected to describe and evaluate each citation that is produced in your search using criteria that we will discuss in class

2. Utilize literature sources to support research goals
   - Extract information from the literature and explain how it relates to your own research

Assignment: Annotated bibliography:

You will construct an annotated bibliography for several of your papers located and evaluated in your searching exercises. Each citation must be in the correct form for your discipline. Each annotation will give an overview of the paper and will then focus on aspects of the paper that relate to your project. You will be expected to clearly articulate how a particular paper complements your own work.
3. Communicate research goals and their significance

- Clearly describe your research goals

Assignment: Informal research presentation:

The purpose of this assignment is to ensure that you can quickly articulate the important aspects of your research project. Think of this as an informal, oral version of your abstract. You will often be asked to do this. For example, when you are on a job interview or at a conference, someone may say to you, “tell me about your research project.” Could you respond in a way that would give a good impression of both you and your project?

On the first day of class, you will be expected to give the first draft of this assignment. It does not have to be perfect! The primary purpose is so that your instructors can get a general idea of your project (see assignment handout). At the end of the semester, you will repeat the assignment and we will review your initial presentation to see how much you’ve improved!

- Explain the significance of your research goals and the validity of the proposed research approach in the context of current research in the field

Assignment: Introduction for a research paper:

Using selected papers from your annotated bibliography, you will write the introduction section for a paper that reports research results from your current project.

- Effectively communicate and evaluate relevant information from peer presentations and assignments.

Assignment: Quiz on informal research presentations:

Following the first iteration of the informal research proposals, a quiz will be given to assess students’ basic knowledge of their peers’ research areas.

Assignment: Writing / asking questions for peer presentations

When you give your second presentation to the class, you will be expected to answer questions that the class formulates. As an audience member, you will be to craft both general and specific questions for each speaker.
Summary of course point distribution:

- Literature searching exercises: 20%
- Informal research presentation: 20%
- Annotated bibliography: 20%
- Introduction: 30%
- Participation and quizzes: 10%

Approximate Grading Scale:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>85 - 100%</td>
<td>A, A-</td>
</tr>
<tr>
<td>73 - 84%</td>
<td>B+, B, B-</td>
</tr>
<tr>
<td>61 - 72%</td>
<td>C+, C, C-</td>
</tr>
<tr>
<td>49 - 60%</td>
<td>D+, D, D-</td>
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<tr>
<td>below 49%</td>
<td>E</td>
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STUDENTS WITH DISABILITIES
If you have a documented disability that affects your work in this (or any other) class, the Disability Resource Center (DRC) can provide support for you (http://www.emich.edu/drc/index.html). EMU Board of Regents Policy #8.3 requires that you first register with the DRC in the Student Center room 240K. Call them at 734-487-2470 to make necessary arrangements to ensure your best chances for success in this course. You are encouraged to contact the DRC promptly, as no retroactive accommodations are possible.

ACADEMIC DISHONESTY
Academic dishonesty, including all forms of cheating and/or plagiarism, will not be tolerated in this class. Penalties for an act of academic dishonesty may range from receiving a failing grade for a particular assignment to receiving a failing grade for the entire course. In addition, you may be referred to the Office of Student Judicial Services for discipline that can result in either a suspension or permanent dismissal. The Student Conduct Code contains detailed definitions of what constitutes academic dishonesty, but if you are not sure about whether something you’re doing would be considered academic dishonesty, consult with an instructor.

INFORMATION FOR INTERNATIONAL STUDENTS
The Student Exchange Visitor Information System (SEVIS) requires F and J students to report the following to the Office of International Students, 229 King Hall within ten (10) days of the event:

- Changes in your name, local address, major field of study, or source of funding.
- Changes in your degree-completion date.
- Changes in your degree-level (ex. Bachelors to Masters).
- Intent to transfer to another school.

Prior permission from OIS is needed for the following:

- Dropping ALL courses as well as carrying or dropping BELOW minimum credit hours.
- Employment on- or off-campus.
- Registering for more than one ONLINE course per term (F-visa only).
- Endorsing I-20 or DS-2019 for re-entry into the USA.

Failure to report may result in the termination of your SEVIS record and even arrest and deportation. If you have questions or concerns, contact the OIS at 487-3116, not your instructor.
OTHER CLASS POLICIES
Because this is a seminar class, a significant portion of your grade will come from in-class discussions, attendance is absolutely required (and is a component of your grade – see “assignments” section).

DISCLAIMER
We reserve the right to make adjustments to this course outline at any time.

Tentative Course Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic/activity</th>
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</thead>
<tbody>
<tr>
<td>prior to 1-11</td>
<td>Email class assignment and syllabus, students meet with advisors to work on informal research presentation.</td>
</tr>
<tr>
<td>1-11</td>
<td>Introduction, first iteration of informal research presentations, turn in key words for searching by 1-14</td>
</tr>
<tr>
<td>1-18</td>
<td>Quiz on IRPs, plagiarism discussion, discussion of literature types, literature assignment given, revise keywords if necessary</td>
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<tr>
<td>1-25</td>
<td>Plagiarism quiz, searching the literature w/Prof. Storm, literature assignment due</td>
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<tr>
<td>2-1</td>
<td>Discussion about introductions</td>
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<tr>
<td>2-8</td>
<td>Evaluating search results, how to read a research paper, annotated bibliography assignment given</td>
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<tr>
<td>2-15*</td>
<td>Work on annotations</td>
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<tr>
<td>2-22</td>
<td>First three annotations due 2-19, feedback/discussion of issues in class, introduction assignment given</td>
</tr>
<tr>
<td>3-1</td>
<td>Annotated bib due. Work on introductions</td>
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<tr>
<td>3-8</td>
<td>Winter Break, no class</td>
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<tr>
<td>3-15</td>
<td>Draft of introduction due, peer review of introduction draft</td>
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<tr>
<td>3-22</td>
<td>Attend the Undergraduate Symposium! Revised draft of introduction due (electronically to Dr. Casper and Dr. Lindsay)</td>
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<tr>
<td>3-29</td>
<td>Spring Recess, no class</td>
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<tr>
<td>4-5*</td>
<td>Revised informal research presentations with questions from audience</td>
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<tr>
<td>4-12</td>
<td>Revised informal research presentations with questions from audience</td>
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<tr>
<td>4-19</td>
<td>Final introduction due</td>
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