Finding & Presenting Chemical Information

A student who intends to become a practicing chemist, or who will use chemistry in allied fields of science and medicine, should know how to use the chemical literature effectively and efficiently. With the continued information explosion, much time can be wasted and important information missed unless an efficient information research strategy is developed.

The course is designed to teach three things:
1. to familiarize you with the major sources of chemical information and major sources of information in related fields with hands on use of these resources,
2. to practice using information research strategies, and
3. to develop skills in presenting information in chemistry.

Instructor:
Thurston Miller, 231 Nieuwland Science Hall, miller.115@nd.edu

Office Hours:
TBD

Class Meeting Locations:

<table>
<thead>
<tr>
<th>Section</th>
<th>Location</th>
<th>Day</th>
<th>Time</th>
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<tbody>
<tr>
<td>01</td>
<td>228 DeBartolo</td>
<td>Tue</td>
<td>11:00 – 11:50</td>
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<tr>
<td>02</td>
<td>228 DeBartolo</td>
<td>Tue</td>
<td>12:30 – 1:20</td>
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<td>03</td>
<td>228 DeBartolo</td>
<td>Thu</td>
<td>11:00 – 11:50</td>
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<tr>
<td>04</td>
<td>331 DeBartolo</td>
<td>Thu</td>
<td>12:30 – 1:20</td>
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Schedule:

Intellectual Property, Ethics, & Using the ND Libraries
   Session 1 – Course introduction, writing citations, copyright on podcast

Research Strategy & Subject conventions
   Session 2 – What is a Research Strategy?
      (assignment #1 is due)

Finding general information on your compound
   Session 3 – Podcasts are discussed, subject conventions & searching google.com.

Finding chemically interesting information on your compound
   Session 4 – Bibliographic searching using SciFinder (Chemical Abstracts & MEDLINE)
      (assignment #2 is due)
   Session 5 – Bibliographic searching using Web of Science

Finding characterizations of your compound
   Session 6 – Finding physical and chemical properties & presentation pointers
      (assignment #3 is due)

Finding synthetic paths for your compound
   Session 7 – Structure and reaction searching using SciFinder
      (assignment #4 is due)
   Session 8 – Structure and reaction searching using Reaxys

Fall Break

Finding commercial applications involving your compound
   Session 9 – Patents
      (assignment #5 is due)

Finding a genetic aspect to your compound
   Session 10 – Searching NCBI bioinformatics databases
      (abstract is submitted and assignments #6 & #7 are due)

Communicating your discoveries to your peers
   Sessions 11 to ult. – 4 10-minute presentations

Class Format:

Sessions 1-10:   Lecture, resource demonstrations, in-class practice problems
Sessions 11-ult:  Presentations, questions, evaluations
Assignments:

The purpose of the assignments is two-fold:
1. To familiarize you with research methods and resources;
2. To help you prepare for your presentation.

There will be seven assignments.

Assignments will be due before the beginning of the next session. They can be turned in before class begins or in the Chemistry Library. If the assignment is turned in after class it will be late.

There is a penalty for late assignments. For each weekday an assignment is late there will be a 10% reduction in the possible score. So if you are 10 days late the assignment will get a zero. For example, lets say you are 5 days late on assignment worth 25 points. This means you have lost 50% of the total score possible (12.5 points). So if you missed 6 points on the assignment then your score for the assignment would be 6.5 points (25 – 12.5 – 6 = 6.5).

All but one of the assignments will count toward your overall grade. The assignment with the lowest grade will be discarded.

All citations must be in the *Accounts of Chemical Research* (updated) format using RefWorks.

Presentation:

Each person will give a 10-minute presentation at the end of the semester.

Each person will select a unique compound.

Your presentation will be specifically about the compound you select.

The focus of your presentation will on any chemical or biochemical aspect of your compound.

Prior to the presentations, each person will write a 75 to 125-word abstract of your presentation. There are two reasons to write an abstract: 1. to give an overview or summary of your presentation or paper, and 2. to tell busy listeners or readers why they should take some time to listen to your presentation or read your paper.

Each presenter will electronically submit (by 8am the day of their presentation) 1. a bibliography of all the sources consulted in preparing their presentation prior to their presentation, and 2. the powerpoint slides of their presentation.

Each member of the audience will evaluate each presentation. The evaluations do not impact the grade of the presenter but provide constructive criticism for improvement. You will see the evaluations made by your peers of your presentation.
There will be some time after each presentation for members of the audience to ask questions. Each student is expected to ask some questions. Your presentation grade will be docked if you don’t ask questions. It can be hard to think of questions but that is the responsibility of the audience.

Grading:

This is the grade range for the course:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>A</td>
<td>100 – 91</td>
<td>40% Presentation</td>
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<tr>
<td>B</td>
<td>90 – 81</td>
<td>40% Assignments</td>
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<tr>
<td>C</td>
<td>80 – 71</td>
<td>20% Evaluating peer presentations</td>
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<tr>
<td>D</td>
<td>70 – 61</td>
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<tr>
<td>F</td>
<td>60 – 0</td>
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I give a + for grades within the upper third of the range and a – for grades within the lower third of the range.

Extra Credit:

Add up to five pieces of information about your compound to the Wikipedia entry for your compound on or before 11:59:59 pm of Nov 19. For every piece of information that is unmodified in the entry on or after the Tuesday of finals week you will get 1% of extra credit for a maximum of 5%. See Thurston for additional requirements if you want to pursue this option.

Suggestions for Success from students in previous classes:

* “Really take time in the assignments. The assignments can be useful later for the presentation.”
* “When doing the homework, find relevant info about your compound.”
* “Start early.”
* “It's useful. Pay attention.”
* “Be prepared to spend a lot of time researching.”

Academic Integrity:

It is expected that work on assignments, abstract, and presentation will be your own and not that of someone else.