Course Proposal : Online Research and the Science Literature

Rationale

This course is designed to introduce students to free and paid resources to find scientific information online. The course covers research skills, types of information resources, evaluating results, and applying these skills to an interdisciplinary scientific topic.

This course is designed with undergraduate science (both life and mathematical/physical) and engineering students in mind. Since many science students do not receive an introduction to information resources as undergraduates, this course is designed with skills needed for science students to be successful information seekers for their future educational and professional endeavors.

Grade Distribution for ARTS&SCI 294 version of the course (Winter 2010) – 25 Students Enrolled

A	15
A-	3
B+	2
B-	2
D	1
W	2

Survey of Students: Select Information (10 respondents)

Number of responding students who took the course based on the topic:	50%
Subject matter was well-organized – strongly agree:	80%
Course helped develop skills/techniques needed to do research online in the sciences effectively - strongly agree:	90%
The required readings and online overviews/worksheets appreciably aided learning in this course – strongly OR moderately agree:	100%
This course will help me succeed in other courses at OSU – strongly or moderately agree:	70%
I learned a great deal from this course – strongly or moderately agree	90%
Which resource covered did you find the most useful and why? (free response): Research databases named (Compendex, PubMed, Agricola)	
Selected quotes: • I felt the course was well organized and helped teach methods for online research in general as well as for science specific research. • Just that I feel this is a very useful class regardless of what major a student focuses on. Searching the Web is difficult. This class and the others before it help so much and let a student know there are many other ways to research than Google!	

Instructional Materials and Assignment Summary

Types of instructional materials:

- Power Point presentations
- Videos (tentative)
- Web page overviews

- Readings
- Worksheets (guided and graded)
- Emails, course communications

Estimated Time Spent on Activities*

	Activities		Time to complete (hours)
Week 1	Power Point intro	Search Strategies and Evaluation Overview	
	Power Point intro quiz	Search Strategies and Evaluation Quiz	
	Reading	Popular News Article	
	Reading Quiz	Popular News Article Quiz	
	White Paper	Search Terms & Eval Case Study	
	White Paper Quiz		4.5
Weeks 2 & 3	Reflection Quiz	Science.gov Worksheet	
	Weeks 2-3 resources overview web page(s)	Science.gov Case Study	
	Preprints worksheet	Discover E-books (net.TUTOR)	
	Blogs/Wikis Worksheet	EBC Worksheet	
	Blogs/Wikis/Preprints Case Study	Subject-Specific E-book database worksheet	
	Scirus Worksheet	E-book case study	
	Scirus Case Study		7.25
Weeks 4 & 5	Reflection Quiz	Life Science database overview web page	
	Physical Science database overview web page	Life science database worksheet	
	Physical science database worksheet	Life science database case study	
	Physical science database case study		3.75
Week 6	Reflection Quiz	*EC1: Google Scholar*	
	Citation Searching Reading	*EC2: Proquest Dissertations & Theses*	
	Citation Searching Reading Quiz	*EC3: Multidatabase Search*	
	ISI Citation Databases Worksheet		
	ISI Citation Databases Case Study		4.5
Week 7	Reflection Quiz	Capstone	6.25
Throughout Course	Weekly emails, assignment evaluations examination, and course communication		1.75
	Total (hours)*		**26.5**
	Total (minutes)*		**1590**
	Credits (750 minutes/credit)		**2**

*excludes extra credit

Sample Syllabus: Online Research and the Science Literature

Instructor & Contact Information:	Danny Dotson dotson.77@osu.edu 614-688-0053 490B Science & Engineering Library Office hours: Monday and Wednesday 3-5pm Other times by appointment
Meeting Information:	This is a 7 week class which is taken entirely in Carmen.
Credit Hours:	3 Quarter Hours, 2 Semester Hours
Course Number and Title:	Proposed -- Quarter: ARTS&SCI 314, Semester: ARTS&SCI 3142 Online Research and the Science Literature
Grade Scheme:	A – E
Required Text:	No textbook required. All course material available via Carmen.
Course Prerequisite:	Quarters: ARTS&SCI 120 (2 credits) Semesters: ARTS&SCI 1120 (2 credits)

Course Description:

This online course, with students in engineering and the life and physical sciences in mind, will explore various aspects of doing interdisciplinary research in the scientific literature. Students will get an in-depth feel for searching the literature of the sciences by examining resources indicative to each as well as interdisciplinary search tools.

Course Goals:

The way scientists communicate their findings to each other and the world is changing. By understanding the scholarly communication process through scientific literature, students will gain better skills for finding scientific information and evaluating it for appropriate use. This class will provide students with an understanding of the scientific literature as a means of advancing their own science research.

Students will:

- Recognize the purpose of resources in the physical and life sciences: blogs, pre-prints, research databases (articles, conference papers, etc.), e-books, citation searching, specialized web search engines and wikis in order to find a variety of resources on a topic.
- Employ effective search strategies in a variety of search tools in order to find relevant information on a topic
- Evaluate search results in order to choose the most relevant information resources for a topic
- Formulate a new search plan in order to research a new topic in the same interdisciplinary subject area

- Use a citation database in order to explore the flow of information

This ***seven week course*** will begin include:

- An overview of information resources, information research, and the life cycle of information in the sciences
- Search strategies and evaluation of results for relevance
- Expanding knowledge on a topic by reading a popular news article and researching its concepts in multiple science information resources
- Using free resources (blogs, wikis, preprints/eprints, and subject-specific search engines) to find information
- Using e-book databases
- Finding scholarly information (articles, conference papers, etc.) using research databases
- Explore the flow of information through citation searching

Types of assignments used in this course include overviews and quizzes on the overviews, readings and computer-graded quizzes, guided worksheets where students practice using various tools, case study assignments where skills are applied to a specific topic, and a final capstone project where all tools are used for research on a new, interdisciplinary topic.

Course Outline and Schedule

Evaluation Reflection and Class Discussion

You will have a short reflection quiz at the beginning of each assignment grouping period. This quiz will be based upon reading feedback to your assignments from the previous week and how the feedback will help you in the coming week. These will be worth 10 points each. (40 points total). These reflection quizzes should be done BEFORE the rest of the period's other assignments.

You will also need to post an introduction about yourself in the Discussion area during Week 1 and during each subsequent assignment grouping period, you will write a short post about something you learned during the PREVIOUS period. These should each be 5-7 sentences. (10 points total)

Week 1: Overview of Information Sources and Course

Goals:
- Recognize the purpose of resources in the physical and life sciences: blogs, pre-prints, research databases (articles, conference papers, etc.), e-books, citation searching, specialized web search engines and wikis in order to find a variety of resources on a topic.
- Employ effective search strategies in search tools in order to find relevant information resources for a topic
- Evaluate search results in order to choose the most relevant information resources for a topic

This week will present an overview of information research in the sciences. You will have an overview of the types of electronic resources used for research and an overview of the course and its assignments. You will learn about research via reading two articles. Finally, you will begin thinking about interdisciplinary science topics by reading an article from a popular news source. This topic will be used in subsequent assignments – so pick a topic that interests you!

Activities:
- Introduction/Overview presentation and quiz
- 2 readings on research in the sciences and quizzes
- Overview of search strategies & evaluation - and quiz
- Introduce yourself in the Discussion area

- ***Choose <u>ONE</u> article to read from the list below. The topic in this article will be used to do research throughout the course, so be sure to pick a topic in which you are interested.***

A) BBC: Snared in a homemade 'NitroNet'	Agriculture and physics
B) Associated Content: Epidemic Influenza: Origin of Influenza Pandemics and the Swine Influenza	Medicine and statistics
C) MSNBC: How jungle rot could power the future	Biology and engineering

Take a quiz on the above article

- Search Terms & Evaluation Case Study *(Case study responses based upon the above reading)*

DUE DATE: End of Week 1

Week 2 & 3 (Free Resources & E-books)

Goals:

- Employ effective search strategies in blogs, wikis, preprints, science-specific search engines, and e-book databases in order to find relevant information resources for a topic
- Evaluate search results in order to choose the most relevant information resources for a topic

Activities:

- Free Resources Overview
- Blogs/Wikis Worksheet
- Preprints Worksheet
- Blogs/Wikis/Preprints Case Study
- Scirus Worksheet/Case Study
- Science.gov Worksheet/Case Study
- General E-book Database (OhioLINK EBC) Overview & Worksheet
- Subject-specific E-book Database (3 choices, depending on week 1 "news" topic) Overview & Worksheet
- Combined E-book Case Study (uses both general and the chose subject ebook database)

These two weeks will begin with exploring several free online tools for finding information and exploring e-book resources.

You will explore social networking via searching blogs for information in an informal setting. You will examine collaborative efforts to gather information by viewing wikis. And you will also explore searching scientific web pages via the use of science-specific search engines.

- Reflection Quiz: Examine feedback on previous week's assignments and how you plan to implement information from feedback during Weeks 2 & 3.

- Examine the following:
  - Preprints/E-prints
    - http://www.osti.gov/eprints/
      - Search multiple discipline preprint/e-print servers

  Complete a Worksheet on Preprints

  - Blogs
    - http://yanfeng.org/sciblogs/
    - http://scienceblogs.com/
    - http://www.scienceblog.com
    - http://www.scientificblogging.com/

  - Wikis
    - http://science.wikinside.com/
    - http://www.qwika.com/

  Complete a Worksheet on Blogs & Wikis

Case Study: Blogs, Wikis, Preprints, & E-prints

- Science Specific Search Engines Overview
  - Scirus Worksheet & Case Study: http://www.scirus.org/
  - Science.gov Worksheet & Case Study: http://www.scienceaccelerator.gov

E-book Databases

You will explore a general e-book database with scholarly books on most science subject areas. You will also explore a subject-specific e-book database, dependent on the news article you chose in Week 1.

- OhioLINK Electronic Book Center: Overview & Worksheet
- Subject-Specific Database Overview & Worksheet. Choice driven by article chose in Week 1:

A) BBC: Snared in a homemade 'NitroNet'	Agriculture and physics	ASABE Technical Library
B) Associated Content: Epidemic Influenza: Origin of Influenza Pandemics and the Swine Influenza	Medicine and statistics	AccessMedicine
C) MSNBC: How jungle rot could power the future	Biology and engineering	Knovel

- Combined EBC & Subject-Specific E-book Database Case Study

DUE DATE: End of Week 3

Weeks 4 & 5: Finding Articles in the Physical Sciences/Engineering & Life Sciences

Goals:
- Employ effective search strategies in research databases in order to find relevant information resources for a topic
- Evaluate search results in order to choose the most relevant information resources for a topic

These weeks focuses on using research databases in the mathematical/physical sciences and engineering and in the life sciences to find journal articles, conference papers, etc. An overview of the each database will be given and you will practice using it in a worksheet. Then, apply your knowledge to do some research in its case study.

Key concepts that will be touched on, if applicable to the database:

- Truncating
- Advanced search features
- Journal articles vs. conference proceedings vs. books

- Limiting features
- Find It!

Assignments:

- Reflection Quiz: Examine feedback on previous week's assignments and how you plan to implement information from feedback during Weeks 4 & 5.

- Databases overview/presentation and quiz

- Complete the appropriate databases according to find scholarly work related to your Week 1 news article reading topic. Choose ONE database from Engineering/Mathematical &Physical Sciences and ONE database from the Life Sciences according to your Week 1 news article reading.

Engineering/Physical &Mathematical Sciences Database:

A) Physics: Overview, Worksheet & Case Study	INSPEC
B) Mathematics & Statistics: Overview, Worksheet & Case Study	MathSciNet
C) Engineering: Overview, Worksheet & Case Study	Compendex

Life Sciences Databases:

A) Agriculture: Overview, Worksheet & Case Study	Agricola (EBSCO)
B) Health: Overview, Worksheet & Case Study	PubMed
C) Biology: Overview, Worksheet & Case Study	BIOSIS Previews

Week 6: Citation Searching & Extra Credit

Goals:

- Employ effective search strategies in a citation database in order to find relevant information resources for a topic
- Evaluate search results in order to choose the most relevant information resources for a topic
- Use a citation database in order to explore the flow of information

This week, you will explore citation searching. Citation searching is used by researchers to explore who has cited specific articles. If you find an article on your topic, it would be very valuable for you to see who has cited that article.

You will have a reading about the value of citation searching and take a quiz on that reading. You will then have an overview of ISI Citation Databases, one of the major databases covering citation data for journal articles and conference papers in a wide range of subject areas. You will explore ISI Citation Databases via a guided worksheet and then search your topic from Week 1 in a case study using ISI Citation Databases.

Assignments:

- Reflection Quiz: Examine feedback on previous week's assignments and how you plan to implement information from feedback during Weeks 6.

- Reading & Quiz: [Citation searches in on-line databases: possibilities and pitfalls](#)
- ISI Citation Databases Worksheet
- ISI Citation Databases Case Study

Extra Credit

You will also have the opportunity this week to explore additional resources via three extra credit assignments. However, you can only get *TWENTY* points maximum extra credit – so do all three and get up to twenty, but not over!

- Multidatabase Search Extra Credit
- Proquest Dissertations & Theses Extra Credit
- Google Scholar Extra Credit

DUE DATE: End of Week 6

Week 7: Capstone Assignment & Final Reflection Quiz

- Reflection Quiz: Examine feedback on previous week's assignments and how you plan to implement information from feedback during your Capstone (Week 7).

Goals:
- Employ effective search strategies in search tools in order to find a wide variety of relevant information resources for a topic
- Evaluate search results in order to choose the most relevant information resources for a topic
- Formulate a new search plan in order to research a new topic in the same interdisciplinary subject area.
- Use a citation database in order to explore the flow of information.

You will be asked to find a variety of resources on an interdisciplinary topic along the same interdisciplinary area as your Week 1 reading from a popular news source. You will be using all the tools you used in the previous required assignments. You will be asked to choose appropriate resources from your search results from each tool and describe them and why they relate to your topic. Note the capstone is 33% of your grade.

You will be graded upon several factors:

- Being detailed and clear in your responses
- Performing advanced searches in the resources - simple searches will not receive as many points
- Examining the results of your resources to pick the most relevant item(s) to include as examples of information relevant to the topic you choose.

Your Capstone topics:

A) What are potential relationships between gamma radiation and crops?	**INSPEC & Agricola (EBSCO)**
B) How well do various treatments (such as dialysis), for kidney problems work?	**MathSciNet & PubMed**
C) How do dikes or dams affect fish migration?	**Compendex & BIOSIS Previews**

DUE DATE: End of Week 7

Grading Criteria:

Student assignments that are not computer-graded will be assessed upon 3 factors:

- Accuracy, completeness, and depth of your answers. In other words, be *DETAILED* in your answers and answer all parts of the question. If you are simply asked for a number, you can answer that number. If you are asked to describe your search, be detailed about the search - don't just say "I searched for **chocolate**" - say what boxes you used, anything you checked/selected, etc. If asked to

summarize an item from your search results in your own words, do not copy the abstract – use your own words to describe.

• The quality of any searches you perform (the simpler searches will not get you more credit if more complex searches will give you better results). Many resources have search features, such as limiting options, wildcards/truncation, specifying term locations, and more. Use these to your advantage.

• Clarity, spelling, and grammar - pay attention to these when writing up your responses.

Assignments & Point Values:

Note the color-coded assignment grouping periods and due dates

Week	Assignment	Points	Due Date
Week 1	PowerPoint intro & Quiz	20	End of Week 1
Week 1	Reading Article & Quiz	10	End of Week 1
Week 1	Reading White Paper & Quiz	10	End of Week 1
Week 1	Search Strategies & Eval Quiz	15	End of Week 1
Week 1	Reading Quiz (Popular) & Quiz	10	End of Week 1
Week 1	Search Terms & Eval Case Study	20	End of Week 1
Week 2&3	Feedback Reflection Quiz	10	End of Week 3
Week 2&3	Preprints Worksheet	10	End of Week 3
Week 2&3	Blogs & wikis worksheet	10	End of Week 3
Week 2&3	Case Study: Blogs, Wikis, Preprints	20	End of Week 3
Week 2&3	Worksheet 2a: Scirus	10	End of Week 3
Week 2&3	Worksheet 2b: Science.gov	10	End of Week 3
Week 2&3	Case Study 2a: Scirus	15	End of Week 3
Week 2&3	Case Study 2b: Science.gov	15	End of Week 3
Week 2&3	EBC Worksheet	10	End of Week 3
Week 2&3	Subject-Specific Ebook Database Worksheet	10	End of Week 3
Week 2&3	Combined Ebook Case Study	25	End of Week 3
Week 4&5	Feedback Reflection Quiz	10	End of Week 5
Week 4&5	Article Databases Overview Quiz	15	End of Week 5
Week 4&5	Physical Science/Engineering Database Worksheet	10	End of Week 5
Week 4&5	Physical Science/Engineering Database Case Study	25	End of Week 5
Week 4&5	Life Science Database Worksheet	10	End of Week 5
Week 4&5	Life Science Database Case Study	25	End of Week 5
Week 6	Feedback Reflection Quiz	10	End of Week 6
Week 6	Citation Searching Reading Quiz	10	End of Week 6
Week 6	ISI Citation Databases Worksheet	10	End of Week 6
Week 6	ISI Citation Databases Case Study	25	End of Week 6
Week 6	*Extra Credit: Google Scholar*	*10*	End of Week 6
Week 6	*Extra Credit: Proquest Dissertations & Theses*	*10*	End of Week 6
Week 6	*Extra Credit: Multidatabase Search*	*10*	End of Week 6
Week 7	Feedback Reflection Quiz	10	End of Week 7
Week 7	Capstone	200	End of Week 7
	Discussion Participation	10	Each period
	Total	**600**	
	+20 Maximum Extra Credit	**620**	

All case studies, reflection quizzes and the capstone are instructor graded. Readings, worksheet, and extra credit are computer-graded.

Point Value = Letter Grades:

Grade	Points	Percent
A	554.5+	93% and above
A-	536.5-554	90 - 92%
B+	518.5-536	87 - 89%
B	494.5-518	83 - 86%
B-	476.5-494	80 - 82%
C+	458.5-476	77 - 79%
C	434.5-458	73 - 76%
C-	416.5-434	70 - 72%
D+	398.5-416	67 - 69%
D	356.5-398	60 - 66%
E	0-356	59% and below

Academic Misconduct:

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee (Faculty Rule 3335-5-487). For additional information, see the Code of Student Conduct (http://studentaffairs.osu.edu/info_for_students/csc.asp).

Disability Services:

Students with disabilities that have been certified by the Office for Disability Services will be appropriately accommodated, and should inform the instructor as soon as possible of their needs. The Office for Disability Services is located in 150 Pomerene Hall, 1760 Neil Avenue; telephone 292-3307, TDD 292-0901; http://www.ods.ohio-state.edu/.

Sample Assignment: Capstone

(Note: Taken from the 294 version of the course – to be expanded for the 7 week version)

Final Assignment: Week 5: Capstone Assignment

The Capstone Assignment will use resources from the previous weeks' assignments. Follow the same topic area tract as you did for your previous assignments.

Your scores for the questions will be based upon the following:

- **Being detailed and clear in your responses**
- **Performing advanced searches in the resources - simple searches will not receive as many points**
- **Examining the results of your resources to pick the most relevant item(s) to include as examples of information relevant to the topic you choose.**

This assignment counts for 100 points of your grade - be sure to give yourself plenty of time to complete it.

Your Capstone topics:

Subject Area	Topic	Databases to Use
A) Agriculture & Physics	What are potential relationships between gamma radiation and crops?	Agricola & INSPEC
B) Medicine & Statistics	How well do various treatments (such as dialysis) for kidney problems work?	PubMed & MathSciNet
C) Biology & Engineering	How do dikes or dams affect fish migration?	Compendex & BIOSIS Previews

Question 1   (0.5 points) 💾 **Save**

Using the subject area from Week 1 Reading and which you used as a basis for previous case studies, indicate your Capstone topic on which you will be doing research:

A) Agriculture and Physics

⬚

What are potential relationships between gamma radiation and crops?

B) Medicine and Statistics

⬚

How well do various treatments (such as dialysis), for kidney problems work?

C) Biology and Engineering

How do dikes or dams affect fish migration?

Question 2   (2 points) Save

Search the E-print Network for your topic. Describe your **MOST EFFECTIVE** search below.

Be detailed in your response.

Question 3   (10 points) Save

Give the titles and URLS of **TWO** preprints applicable to your topic. Follow each by a summary (3-5 sentences) - *in your own words* - of how the preprint is applicable to your topic. You do not have to read the entire preprint, but need to either read the abstract or a portion of the preprint in order to assess whether it is applicable.

Question 4   (0.5 points) Save

Search one of the blog resources from Week 1 for information on you topic. Indicate which resource you used below. Click on the item to access it in a new window.

Science Blogs Search

Scientific Blogging
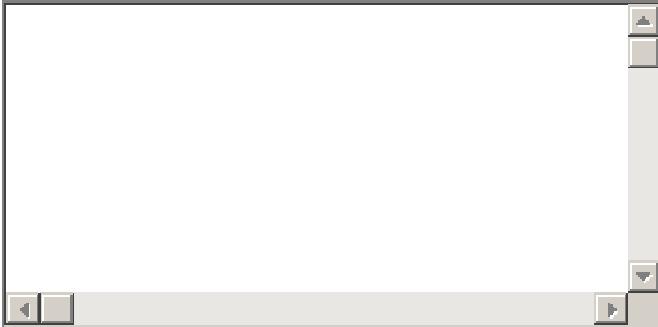
ScienceBlogs.

Question 5   (2 points) Save

Using one of the blog resources you explored in Week 1, search for information on your topic. Describe your MOST EFFECTIVE search

Be detailed in your response

[text box]

Question 6   (5 points) Save

Give the title, URL, and a 3-5 sentence summary **in your own words** of the most relevant blog entry related to your topic. Indicate in your summary how the blog entry relates to your topic.

[text box]

Question 7   (0.5 points) Save

Choose one of the wiki resources to search for information on your topic. Indicate the one you used. Access the resouce in a new window by clicking on it.

○   Wikinside: Science & health

○   Wikia

Question 8   (2 points) Save

Use one of the wiki resources from Week 1 to find information related to your topic. Describe your MOST EFFECTIVE search

*Be detailed in your response*

[text box]

<p style="text-align: center;">**Question 9**   (5 points) **Save**</p>

Give the title, URL, and a summary (3-5 sentences), **in your own words**, of the most relevant wiki or wiki entry related to your topic. Indicate how the wiki or wiki entry relates to your topic.

<p style="text-align: center;">**Question 10**   (0.5 points) **Save**</p>

Choose a science-specific search engine to search your topic. Inidicate which you used. You may click on the name to access it in another window.

       Scirus

○

○   Science.gov

<p style="text-align: center;">**Question 11**   (3 points) **Save**</p>

Using the resource you chose, describe in detail your **MOST** effective search.

Be detailed in your response

<p style="text-align: center;">**Question 12**   (10 points) **Save**</p>

Give the title, URL, and a summary (3-5 sentences) **in your own words**, of the TWO most relevant web pages related to your topic. Indicate how the pages relate to your topic.

Be detailed in your responses
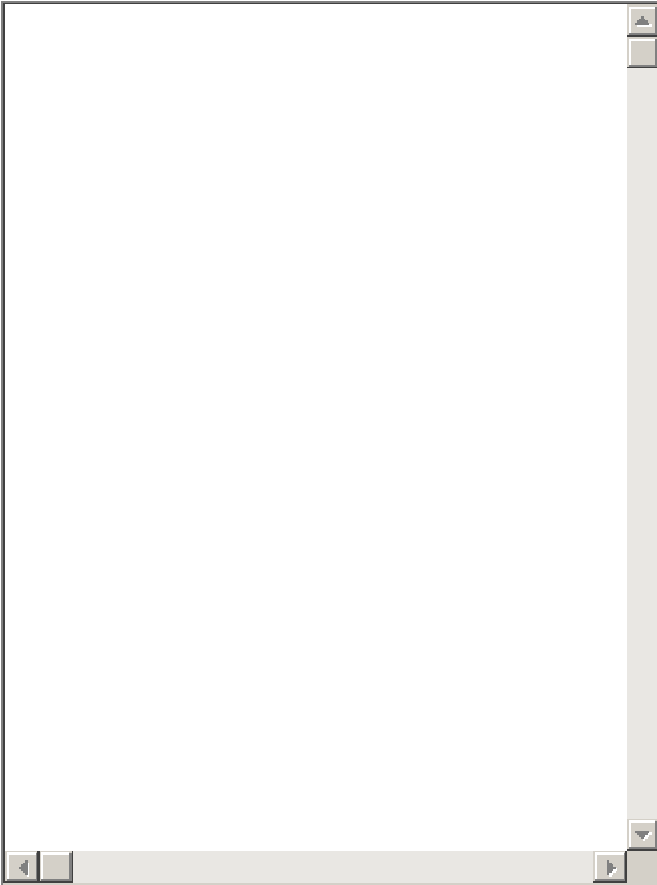
Question 13 (0.5 points) ![Save icon] **Save**

You will now search a physical science/engineering database. Indicate the one you used from Week 3. This is the one you will use to search for your topic.

Click on the database to access it in another window.

☐ [INSPEC 1969-present](#)

☐ [MathSciNet](#)

☐ [Compendex](#)

Question 14 (3 points) ![Save icon] **Save**

Describe in detail your MOST effective search for your topic in the database you indicated above.

Be detailed in your response

Question 15   (20 points) **Save**

Give citations for **FOUR** relevant items you found in the database related to your topic, describe its availability, followed by a 3-5 sentence summary **in your own words**. Include information on how the item is relevant to your topic. You can use subject headings, the abstract, or even the electronic text of the item. Use your own words to write this summary - don't copy and paste the abstract. Indicate in your summary why the item is relevant to your topic.

Use the Find It! button to format the citation in **Chicago** format.

The format for each item:

Citation:
Availability:
Summary:

Be detailed in your responses
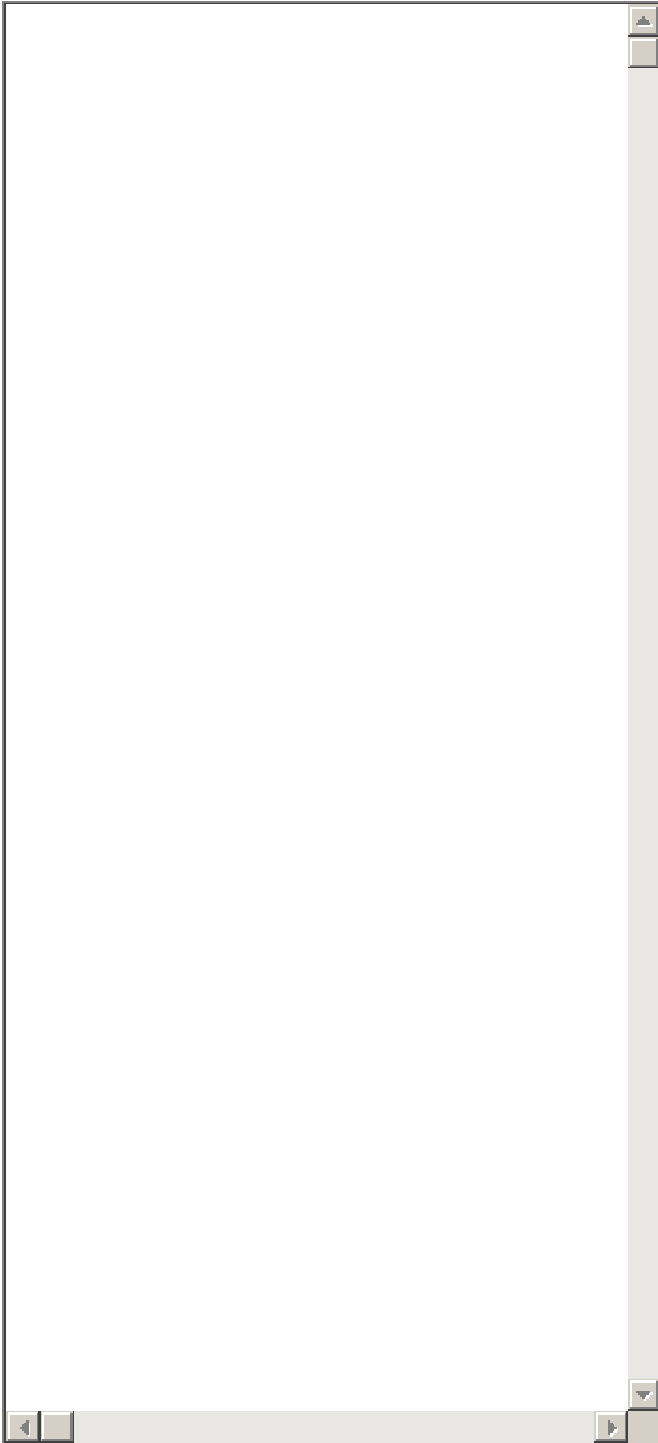
Question 16   (0.5 points) **Save**

You will now search a life sciences database. Indicate the one you used from Week 4. This is the one you will use to search for your topic.

☐   Agricola
(EBSCO)

☐   PubMed

☐   BIOSIS Previews

Question 17   (3 points) **Save**

Describe in detail your MOST effective search for your topic in the database you indicated above.

Be detailed in your response

Question 18   (20 points) **Save**

Give citations for **FOUR** relevant items you found in the database related to your topic, describe its availability, followed by a 3-5 sentence summary **in your own words**. Include information on how the item is relevant to your topic. You can use subject headings, the abstract, or even the electronic text of the item. Use your own words to write this summary - don't copy and paste the abstract. Indicate in your summary why the item is relevant to your topic.

Use the Find It! button to format the citation in **Chicago** format.

The format for each item:

Citation:
Availability:
Summary:

Be detailed in your responses

Question 19   (6 points) **Save**

Summarize your thoughts on searching techniques in the various resources. Mention each of the following:

- Ease of searching
- Advanced searching or limiting ability

Which resource(s) was the easiest to search? Which allowed you to use the most advanced techniques or limiting? Describe in 5-7 sentences your thoughts on this issue.

Question 20 (6 points) Save

Summarize the types of **results** in your searches. Which resource(s) gave the most relevant results? Which gave the least relevant? Use 5-7 sentences to summarize your thoughts.

Sample Extra Credit: Week 3 EC - ISI Citation Databases

Question 1   (1 point) **Save**

Go to ISI Citation Databases. place the following in the first search box:

biofuel*

Note in the ISI Citation Databases, * is used for truncation. A search for biofuel will search for biofuel or biofuels.

Make sure the drop down menu next to the box indicates **Topic**. Click on **Search**. How many results did you get?

⬜   Under 300

⬜   Between 300 and 3,000

⬜   Over 3,000

Question 2   (1 point) **Save**

On the left hand side of the screen, you'll notice several categories in which you can limit your searches. Click on the triangle next to **Source Titles**. This indicates where the item was published. Without checking any boxes or doing any refining, look at the list. Which of the following had the **MOST** number of results?

⬜   BIOMASS & BIOENERGY

⬜   BIORESOURCE TECHNOLOGY

⬜   SCIENCE

Question 3   (1 point) **Save**

Above your list of search results (upper right), you will see a box to sort your results. Sort by **Times Cited**. This will give you which articles were cited most at the top of the list. the ISI Citation Databases specialize in examining how many times an article has been cited.

Which of the following articles was the most often cited according to this list?

⬜   Title: The plant immune system
      Author(s): Jones JDG, Dangl JL
      Source: NATURE   Volume: 444   Issue: 7117   Pages: 323-329   Published: NOV 16 2006

⬜   Title: Electricity generation by direct oxidation of glucose in mediatorless microbial fuel cells
      Author(s): Chaudhuri SK, Lovley DR
      Source: NATURE BIOTECHNOLOGY   Volume: 21   Issue: 10   Pages: 1229-1232   Published: OCT 2003

Title: The path forward for biofuels and biomaterials
Author(s): Ragauskas AJ, Williams CK, Davison BH, et al.
Source: SCIENCE   Volume: 311   Issue: 5760   Pages: 484-489   Published: JAN 27 2006

Question 4   (1 point) Save

Click on the number that's next to **Times Cited** for the article you indicated in the previous question. You will get a list of articles that has cited that article.

Again, sort by **Times Cited**. Of the articles below, which was cited the most?

Title: Antiviral immunity directed by small RNAs
Author(s): Ding SW, Voinnet O
Source: CELL   Volume: 130   Issue: 3   Pages: 413-426   Published: AUG 10 2007

Title: Indirect activation of a plant nucleotide binding site-leucine-rich repeat protein by a bacterial protease
Author(s): Ade J, DeYoung BJ, Golstein C, et al.
Source: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA   Volume: 104   Issue: 7   Pages: 2531-2536   Published: FEB 13 2007

Title: The BRI1-associated kinase 1, BAK1, has a Brassinoli-independent role in plant cell-death control
Author(s): Kemmerling B, Schwedt A, Rodriguez P, et al.
Source: CURRENT BIOLOGY   Volume: 17   Issue: 13   Pages: 1116-1122   Published: JUL 3 2007

Question 5   (1 point) Save

Click on **Search** at the top of the page. Enter **Ohio State** in the first search box and choose **Address** from the dropdown menu (note when you do this, an option appears to see a list of common abbreviations used in addresses).

Limit your search to **Latest 5 years** below the search boxes.

This search will give you a list of articles indexed in this database that have been written by someone at Ohio State within the past 5 years.

Click on **Search** and sort your results by **Times Cited**.

Which of the following articles is the most cited?

Title: Statin therapy, LDL cholesterol, C-reactive protein, and coronary artery disease
Author(s): Nissen SE, Tuzcu EM, Schoenhagen P, et al.
Source: NEW ENGLAND JOURNAL OF MEDICINE   Volume: 352   Issue: 1   Pages: 29-38   Published: JAN 6 2005

Title: Review of particle physics
Author(s): Yao WM, Amsler C, Asner D, et al.
Source: JOURNAL OF PHYSICS G-NUCLEAR AND PARTICLE PHYSICS   Volume: 33   Issue: 1   Special Issue: Sp. Iss. SI   Pages: 1-+   Published: JUL 2006

Title: The Fourth Data Release of the Sloan Digital Sky Survey

Possible Additional Reading Options for the Future

- [Searching Scientific Databases for Guides to Experiment and Theory](#)

- [Internationalization of mathematical research](#)

- [Personalized online information search and visualization](#)

- [How does your searching grow? A survey of search preferences and the use of optimal search strategies in the identification of qualitative research](#)

- [Finding and using journal-article components: Impacts of disaggregation on teaching and research practice](#)