Engineering Professional Development 151:
Technical Information Resources

Engaging with the CoE Curriculum?



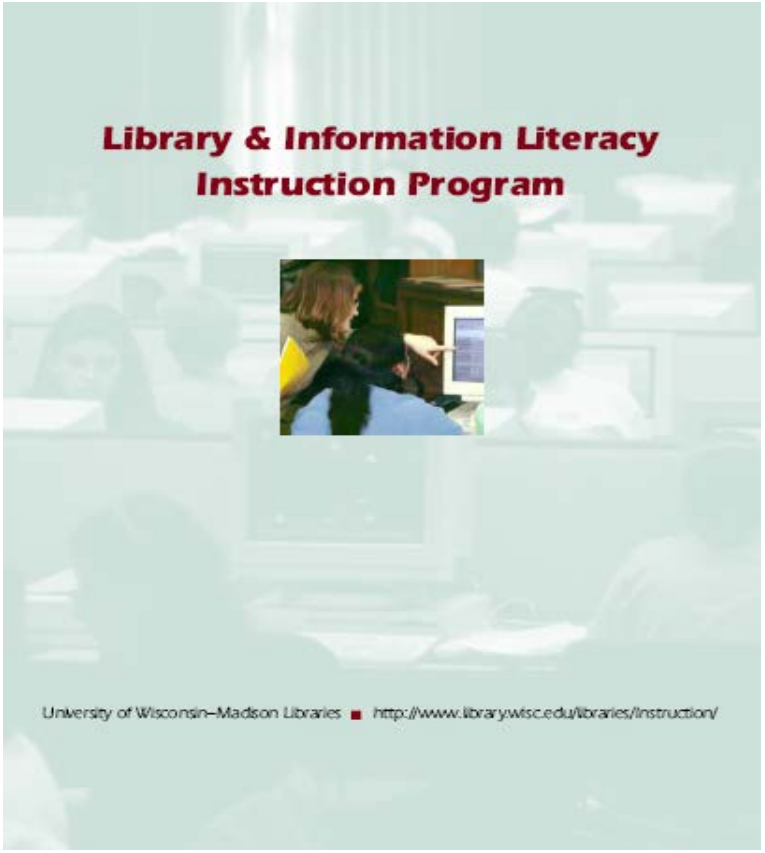

Diana Wheeler
Library Instruction Coordinator

WENDT LIBRARY
UNIVERSITY OF WISCONSIN–MADISON

College of Engineering
University of Wisconsin-Madison

Our LILI program

Wendt, Spring 2006: 85 sessions



- Course-related instruction and support; liaison support of research groups, seminars, special topics
- Drop-in workshops (campus-wide program)
- Individual consultations
- Orientations
- Other Programs
- And one online credit course

About EPD 151

- 1 credit, 6 wk. class; Counts toward technical communication certificate
- Undergrads, mostly in CoE, but open to others
- Online, with one required in- class orientation
- Approximately every semester
- Team effort!

THE UNIVERSITY OF WISCONSIN MADISON TIMETABLE • Fal.. Learn@UW an online learning environment

School/College: COLLEGE OF ENGINEERING
Department: **(348) ENGINEERING PROFESSIONAL DEVELOPMENT**

	Course	SS	Cr	Cr No Cr	geBLC	Prerequisites	Open to Fr	XL	Notes	Go To Sections All	Go To Sections Open
151	Technical Info Resources	HFF	1	.	_____	Open to Fr	Y	.	.		
155	Basic Communication	A1	2	.	a__EC	Open to Fr. Stdts may receive degree cr for only one Com A crse	Y	.	.		
199	Freshman Independent Study	A1	1- 3	.	___ET	Open to Fr	Y	.	.		.
275	Technical Presentations	A1	2	.	_____	So st	.	.	.		.
299	Sophomore Independent Study	A1	1- 3	.	___IT	.	.	.	.		.
305	Basic Chinese Conversatn I	A1	3	.	___IT	.	.	.	.		
330	Basic Technical Japanese I	A1	3	.	___EC	Sr or Grad st	.	XL	.		
374	Intermed Tech Japanese I	A1	3	Y	___IC	East Asian 103 & 104 or cons inst. Does not satisfy L&S language or major requirement	.	XL	.		
395	Elems: Comp-Assist Publishg	A1	3	.	_____	EPD 397 or cons inst	.	.	.		
397	Technical Communication	A1	3	.	b__IT	Jr st	.	.	.		

Welcome to EPD 151: Technical Information Resources!

University of Wisconsin - Madison
Kurt F. Wendt Library

Instructor: Diana Wheeler, M.A. LIS
Room 217 Kurt F. Wendt Library, dwheeler@engr.wisc.edu, (608)265-9801

TA: Sheila McGraw,M.A. LIS Candidate
School of Library & Information Studies, UW Madison, smcgraw@library.wisc.edu

Class starts on MONDAY, February 21, and ends SUNDAY, April 10, 2005.

Modules

- Objectives
- Readings
- Quizzes
- Projects
- Discussions

“Success”

- Students really benefit, based on emphatic feedback. They see that they need this.
- They feel empowered and report having an easier time finding good resources for their classes.
- We learn important information about them because we spend so much time with them.
- We connect with 20 undergrads/semester in rare, *extended* engagement.

Student comments

- Before taking this class, I depended on Google 95% of the time and used MadCat only when I had to. Even then, my searches were never as direct as they are now. Learning to use the specific searches, and even creating advanced searches has already helped me write two of my papers. I wish I would have taken this class sooner.

I totally agree that all majors should require this class, although not so engineering-based, obviously. I think a lot of professors just assume that we all know how to search for information on the web or don't think that knowing how to efficiently search is important. Schools should definitely look into requiring a form of this class for all majors. Definitely.

It's all new to me...
Message authored on Mar 13, 2005 2:17:24 PM:

Just a few weeks into this class and I already have learned more about finding resources than I ever knew before. I think that this class should be connected with EPD 155 (and make it into a three credit class). When working on my papers/speeches in 155 I just used google to find most of my information. And obviously, it took a long time to find good credible resources. That's just one engineer's opinion - I don't know if other people have had more of this information already.

Action Required:

- Missing some important skill areas, eg., material property data.
- It may be offered in the timetable, but it is not integrated with the  urriculum.
- Scalability…or re-purposing?
- Hey, it’s not a finished product, but the beginning…it’s a pilot!

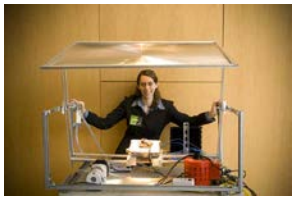
Piloting future integration

CoE Curriculum 101
Syllabus:

Information Skills, My Dear Watson…

- A rare chance to observe behaviors and talk with students about information skills in the curriculum.
- Inform future collaborations with CoE, perhaps opening new avenues for integration with the curriculum.
- Persuasive evaluations and feedback – big mojo.
- EPD 151 represents a range of skills and tools students need over four years. Why not partner with Engineering Professional Development department to integrate while they seek to integrate?

Thanks.



Let me know if you want to explore the course in Learn@UW, or chat about it.

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Very special thanks to Linda Whang for her valuable feedback. ☺

Sample Content Pages

Appendix to main slide show (slides 1 – 11).

Slides 12 – 29 are supplementary material.

Unit Two: Internet Basics and Critical Thinking

Free Web vs. Invisible Web

When using web-based information sources for your research, it is important to differentiate between the kinds of information available through search engines such as Google (the **"free-web"**), and the kind of information that is hidden deeper in the Internet, often behind licensing agreements that give access only to those who are part of the agreement, or within databases th are not searchable by a web engine.

These less widely-available sources inhabit the **"invisible web"**. An example of invisible web resources would be the many licensed databases that you have access to only because you are registered UW-Madison students. These licenses are paid for in part, by your student fees. Another example of an invisible web resource would be the documents within a government database that **are** available on the free-web, but which you can only access through a search of that particular database, meaning you have to find the database first, in order to find the documents within. The database search protocols are out of reach of Google.

Please read the article, The Invisible Web: Uncovering Sources Search Engines Can't See, by Chris Sherman and Gary Price (**Library Trends**, Fall 2003, Vol. 52 Issue 2, p282, 17p).

or read

In Search of the Deep Web by Alex Wright (**salon.com**, March 9, 2004, http://www.salon.com/tech/feature/2004/03/09/deep_web/index_np.html , access

The Quest for the Perfect Search Strategy

Hi, I'm Ben, a librarian at Wendt Library.
I'll be your guest instructor for the next five minutes.

You'll need headphones or speakers
to hear the audio portion of this tutorial.

By Ben Conklin (Wendt Library, August 2004)
(adapted from Wendt Library's "Developing a Basic Search Strategy")
By Amy Kindschi (Wendt Library), February 2001
(adapted from Steenbock Library's "Developing a Basic Search Strategy")
by Julianne Haahr in collaboration with Patricia Herrling, Sept. 2000)

Sample Quiz

Quiz: Unit 4.2 Quiz: Finding Journal Articles & Conferences

Time Limit: 1 hour **Time Left:** 59 minutes exit preview

Quiz Info

DIANA WHEELER
Attempt 1

Questions

1 2 3 4 5 6

Legend

Unsaved Response
Saved Response
Info Item

Quiz Status

Quiz Started

Question 3 (1 point) Save

Match the following scenarios to the appropriate starting point.

	You have an incomplete article citation and need to get the complete citation.
	You want to find out if a journal is available in full-text online.
	You have the name of an author, and want to know what articles s/he has written on a topic.
	You have a complete citation for a journal article and want to know if the journal is owned by a UW Madison library.
	You are starting your research and want to find articles written about your topic.

1. MadCat
2. Journal Database
3. Journal Database
4. Journal Database
5. MadCat

Question 4 (1 point) Save

In the Applied Science Full Text database, do a title search for the article, "Optical tests of nanoengineered liquid mirrors," then answer the following questions:

What are the name/volume/number/date/page numbers of the journal where this article appears?

- 1) Applied Optics v. 42 no. 10 (April 1 2003) p. 1882-7
- 2) Journal of Applied Optics v. 42 no. 10 (April 1 2003) p. 1882-7
- 3) Optics Letters v. 42 no. 10 (April 1 2003) p. 1882-7

Sample Discussion

EPD 151 Discussion Forum - Unit 1: Engineering Information in Professional Practice

Display Options

Consider the article from New Scientist. Do you agree with the author's assessment of why the bridge's engineers did not catch the design flaw earlier?

Flag Message | Edit | Delete | Next | Reply | With Message

Currently, I agree with everyone, the standards system is not perfect, most firms do not want to publicize their mistakes, and modeling does not always work, it can be difficult to know what possibly might go wrong. This is all well and good -- completely understandable if a mistake rises because it falls within these categories, but fault still lays squarely on the design team.

One of the other students mentioned that standards are a guideline you can't just follow and assume everything is going to turn out. My one issue is that if an engineering group is designing a footbridge don't you think that it is there responsibility to do a little background research on footbridge failings? Why didn't they find this article prior to erecting the bridge? They then could have possibly changed the parameters of their models to include the effects.

As much as this is a problem of dated standards, it is also an oversight on their part.

Goals and Objectives:

The purpose of this class is to familiarize you with the types of literature that engineers use, and to improve your research skills.

Mastering information skills, tools, and concepts will save you time, help you produce better work for your classes, and ultimately help you to perform better as a professional engineer.

To achieve a deeper mastery of technical information sources, you will read units dedicated to the range of literature and information tools in engineering. You will participate in twice-weekly discussions, take quizzes, and complete assignments designed to give you practice finding and applying information.

Project Descriptions

Project 1: Round of Searching: 10 points

Due: Post using DropBox Tool by 11.30 pm on Sunday, March 12, 2006.

Goals:

- **Practice topic-searching in a scholarly database**
- **Reinforce the basics of good search strategy that you learned in the Unit 3 tutorials**
- **Practice using additional search refinement tools offered by databases, such as limiting by document type, publication year, etc.**

Requirements:

Download Worksheet Word Document), save and complete it and then use the dropbox to submit your work.

Project 2: Scavenger Hunt: 8 points, 1 point per citation.

Due: Post using DropBox Tool by 11.30 pm on Sunday, April 2, 2006.

Goals:

- **To find library sources, report citations, understand the kind of literature each citation represents, and then recording how you found the information.**

Requirements:

Each student will be given 8 citations to find from an actual bibliography to a scholarly article or book chapter. Each of the 8 citations is worth 1 point. The citations will represent a variety of each of the kinds of professional literature discussed throughout the course: books, journal articles, conference proceedings, patents, and possibly government documents.

Project 3: Annotated Bibliography with RefWorks : 10 points (1 point per complete citation/annotation, plus 1 point for overall quality)

Note: if you want to look at this project separately, you may link to it here.

Due: Post using DropBox Tool by 11.30 pm on Sunday, April 9, 2006.

Goals:

Do you need to do any library research in another class? Do you have a personal interest in an engineering topic? This is your opportunity to find references on your topic. It is also your chance to learn how to use the RefWorks citation management software, which is a great way to organize your research and generate bibliographies automatically.

Assignment: Round of Searching

Goals: Practice basic search strategies & get to know database; iterative nature of process

- **Pre- search** Find basic information, using strategies learned in unit 3.

- **Search**

Observe search mode - - Fielded/keyword - - Truncation symbol - - Phrase rule - - Adjust strategy

Analyze Results: Too many? Too few? On target? Why/why not? New terms?

- **Re- Search**

Use what you learned from previous search. Eliminate basic errors – add search limits: date, document type, treatment, language.

- **Reflect on differences between results sets, and pick top results.**

Sample student reflection

I think the difference is threefold:

1) when I had the “technical” term, I got a bunch of articles about composition programs at technical college,

2) when I had writ*, I got a lot of articles where the abstracts mention things that have been “written” but don’t pertain to writing instruction,

3) when I had engineer*, I hit a lot of uses of the general verb “to engineer” that didn’t pertain to the discipline of engineering.

Instructor feedback: Kyle, You really clearly articulated your thought process. I can tell you put a lot of effort into looking and analyzing your search results. It’s fantastic!

Assignment: Annotated Bibliography

Goals:

- **Practice using skills and tools from course to find representative literature types for chosen topic.**

- **Relate this work to actual coursework they are doing.**

- **Critically evaluate and communicate what each item found represents to their own research and learning about the topic.**

- **(learn to use RefWorks)**

Further student comments

- The following pages aren’t part of the presentation, but are some additional discussion postings and evaluation comments.

Student comments

- I know I'm just repeating a lot of what other people have said, but I've learned so much in the two weeks of class. I feel stupid saying this, but until now, I only EVER used Google and never with Boolean searches. I guess I never thought that there were any other search engines or data bases out there, or at least that it didn't make a difference where you searched. I also knew that there were such things as Boolean searches but they seemed so complex that I never bothered to learn them; I just assumed that I'd eventually find what I was looking for.

Student comments

- I really wish that I had taken this class my freshman year. It's helping me through both EPD 275 (Technical Presentations) and EMA 307. After this unit, I think I'll be checking out more books now that I've learned how to.

Student comments

- It is a bit embarrasing to admit this, as an engineering student, but I had no idea that databases like EI Compendex existed. I never really searched too hard into the UW system to notice. Now that I do know, however, I think that I will be using it a lot more in the future.

- Don't worry you're not alone. I didn't know it existed either. I definitely feel like I have an advantage over the other engineering students now and knowing about all the different types of databases makes it much easier to find information.

Student comments

- I agree completely. I used to just type in a subject or keyword and hope for the best. The info from this class really improved my searching in MadCat, and in other places as well. I think this has made my using the Internet that much easier.

  Searching Using our Databases
  Message authored on Mar 14, 2005 5:25:12 PM:

  I'm not so much asking a question as much as I'm making a statement about how useful this has been going through the information. It's really amazing me how much more effective I've been searching, especially with MadCat. I was able to single out one specific article the second time I took the quiz immediately. It's actually really encouraging, as you realize the benefits of this course. Okay..... I'm done.

Student comments

- I kind of feel the same way. Boolean characters vary so much between websites that I never thought it worth it to take the time to learn them all. I always just assumed that I'd find the same things eventually whether I used Boolean characters or not. Now, however, I use Boolean searches all of the time and maybe it's all in my head, but I feel like I'm getting the information much quicker now. The correct syntax, as you said, is still something I have to get better at.

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  sharing a thought
  Message authored on Mar 14, 2005 4:20:06 PM:

  so far i've learned quite a lot about searching correctly. i always thought that this boolean and advanced searching was too complex and too much work. but now that i am learning it, its not that complex but it is still quite some work to get the perfect search syntax that will get you the best results.

Student comments

- I agree with Amanda, I never used the library resources unless I was using a research paper. Now I know I can use it for any paper I need to. The boolean really helps me when searching on bigger search engines. It lowers the result numbers and content to more pertinent information.

  Boolean Searches
  Message authored on Mar 13, 2005 11:32:21 PM:

  Before taking this class, I depended on Google 95% of the time and used MadCat only when I had to. Even then, my searches were never as direct as they are now. Learning to use the specific searches, and even creating advanced searches has already helped me write two of my papers. I wish I would have taken this class sooner.

Student comments

- Yes, there really is a " wealth of information " out there and I used to typically use ask.com to start because I could fill in a question and would receive numerous hits in response to my question depending of course on what question I typed in. Ask.com isn't a very scientific, scholarly approach to searches. Now I have, like Tom, acquired the knowledge of other, more effective, and more scholarly or professional ways to conduct searches using the databases we learned about in EPD 151. This has certainly broadened my horizons and made me much more aware of the vast amount of information we now have available conveniently accessible to us via the computer. EPD 151 is a course which can provide students from all disciplines with valuable library research methods and yes, Refworks can be a great way to conveniently start putting together a bibliography.

  A wealth of information
  Message authored on Mar 13, 2005 8:37:43 PM:

  One thing in particular I've gotten out of this class is a better awareness of what informational resources UW has to offer. I definitely am more able to find pertinent information now, because I have a better idea of what databases and search strategies to use.

  Also, I just started using Refworks. I personally hate writing bibliographies. So, I've really liked the convenience of Refworks.

  tom

Student comments

- I completely agree with Emily and Zahra on these. All these boolean operators are very useful in narrowing searches. I find myself using them even when searching for random useless non-academic things on google as well!

  Boolean Search operators
  Message authored on Mar 13, 2005 4:42:52 PM:

  I knew to put quotations around phrases and using "or" and "and" before taking this class, but I didn't know about using truncation and using () around "or" statements. These techniques have significantly helped my searching skills. I now find more hits pertaining to my topic. So thanks. How does everyone else feel about Boolean search strings? Good techniques or torture device?

Student comments

- Matt, Matt, Emily & Tom,

  I am glad that you find EPD 151 so useful. It's really nice for me to hear that. I wish Wendt librarians had time to turn this into a 3 credit course. Maybe someday.... As it is, it is a challenge for us librarians to offer the class every semester, and we have to limit the class size in order to do a decent job.

  Emily, EPD 155 is a Comm A requirement that most people take as freshmen and sophomores. However, some students place out of it and so ironically those students miss out on some important information. That was probably your situation.

  There is always a library session in EPD 155, where a Wendt librarian comes to a class and tries to teach some good library search skills. It is really not enough time to make a big impact, especially since as freshmen and sophomores, many students don't see the value of the information quite yet.

  We also try to reach students through course-related instruction such as the IE 191 class that Tom mentioned.

  Thank you all for your feedback. At Wendt we have discussed possible ways to make EPD 151 reach a broader audience, and your comments reinforce the importance of pursuing that goal.

  Diana

  Re: It's all new to me...
  Message authored on Mar 14, 2005 1:52:30 PM:

  It would be nice to have a 2 hour class taught on learning how to use the engineering resources. Before Wendt librarians guest lectured in my IE 191 class, I had no idea that databases like proquest or engineering village were available for UW students to search (I used google during my freshmen year).