



Library-Smart House Collaboration for Information Literacy Development

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Drexel University

www.drexel.edu

- Founded in 1891, University is known for its strengths in engineering, science and technology
- The College of Engineering is the third largest private engineering college in the country.
- **Total Drexel Student Population (approx.):** 12,000 undergraduates; 1000 graduate students; 4000 professional/other.
- **Engineering Student Population (approx.):** 2800 undergraduates; 900 graduate students (550 master's; 350 doctoral)

Drexel University Libraries

www.library.drexel.edu

- **All Drexel Libraries:**
 - **Electronic Databases: 559**
 - **Electronic Books: 121,668**
 - **Electronic Journals: 27,224**
 - **As of June 3, 2009**
- **The mission of the Drexel University Libraries is to support the University's academic programs, research initiatives, and student learning.**



Source: Print is Dead, DU Libraries Eresources blog:

<http://www.library.drexel.edu/blogs/eresources/2009/06/04/e-resource-roundup-8/>

Drexel Smart House

www.drexelsmarthouse.com

- Student-led organization founded in 2006
- multidisciplinary project to renovate an urban home to serve as a “living laboratory” for exploring cutting edge design and technology.
- Research Areas:
 - Environment, Energy, Interaction, Health, Lifestyle
- Ultimate goal of improving quality of life in the urban residential setting.

Library-Smart House Collaboration

- The Library-Smart House collaboration seeks to go beyond the constraints of a single course and provide similar resources and information literacy instruction through collaboration with an ongoing student project.
- Previous Library-Smart House interactions included blog postings, information literacy instruction and design group consultations.

Interdisciplinary Collaboration

- “Increasingly, the most significant new scientific and engineering advances are formed to cut across several disciplines.”*
- Smart House participants include students from engineering disciplines, architecture, business, media arts & design, and interior design
- Smart House operates as an incubator for student developed designs and technologies. We have the same diverse needs as any “real” business.

Source: National Research Council. 2005. *Rising above the gathering storm: Energizing and employing America for a brighter economic future*. Washington, DC: National Academies Press.

Virtual Collaboration

- **Engineering students must gain experience with a wide variety of virtual communication and research tools in order to meet the demands of an increasingly global workplace.**
- **Bringing together students and faculty from different disciplines to collaborate more effectively in a unified work environment**

Collaboration Model

- **Drexel Smart House**
 - **Organizational Structure and Processes**
 - **Virtual Education and Work Environment**
 - **Curriculum Integration**
- **Project Management and Data Collection/Storage for Continuity**
- **Stakeholder Relationship Management**
- **Document Collaboration and Storage**
- **Mashable databases and APIs**

Web-Based Collaborative Tools

- Smart House Wiki –

The image shows two overlapping screenshots of the Drexel Smart House Wiki. The top screenshot is the 'Main Page' with a navigation menu on the left and a table of contents. The bottom screenshot is a page titled 'Research Committee/Freshmen Design/2008 /Fontecchio 035' with a sub-page title 'Dr Adam Fontecchio's section: Freshman Design Engineering 103-035' and a list of group topics.

Main Page

Welcome to the Drexel Smart House Wiki

Contents [hide]

- 1 For an Overview
- 2 Important Pages
- 3 Contact Info
- 4 Getting started

For an Overview [edit]

Please browse our [operations plan](#) projects, our [past projects](#), and our [current projects](#).

Important Pages

Executive Council

- [Commercialization Committee](#)
- [Communications Committee](#)
 - Events attended
 - Files

Research Committee/Freshmen Design/2008 /Fontecchio 035

< [Research Committee](#) | [Freshmen Design](#) | 2008

Dr Adam Fontecchio's section: Freshman Design Engineering 103-035 [edit]

- Group 7: Biomass - Waste Management
- Architectural Coatings

Information Awareness


- When students are faced with open-ended Smart House problems, students need formalized instruction and extensive coverage of the research process.*
- Obvious need for increased information awareness of new technologies, resources and tools for students
- For any successful Information Literacy program, student awareness of existing and potential information resources is absolutely critical.

Source: Hannon, C., M. Huber, and L. Burnell. 2005. Research to Classroom: Experiences from a Multi-institutional Course in Smart Home Technologies. *SIGCSE Bulletin* 37(1):121-125.

Information Awareness


- Students need increased visibility of available resources and multiple methods of communication and marketing.
- Traditional means of supporting information awareness will be implemented, such as specialized research guides and library presence in course management systems.
- Use of Web 2.0 tools such as blogs, RSS feeds, wiki, and social networking tools such as Facebook and LinkedIn will be explored.

Blog Entry




DREXEL UNIVERSITY LIBRARIES

Libraries Home Health Sciences Catalog Resources Research Guides Services About the Libraries




Engineering Library Instruction

Search this Blog:



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Categories:

May 30, 2009

What resources the Senior Design Team used that Win \$75,000 Phase II EPA Funding?

The senior design team of Eric Eisele, Courtney Reid, Dan Pugh, Sarah Byrnes, and Charlie Woods was awarded a Phase II People, Prosperity, and Planet Award from the **Environmental Protection Agency (EPA)**. See **Senior Design Team wins EPA funding** for more details.

Eric and his team used several Library resources over a period of time. These include:

- o **ASCE Civil Engineering Database**
- o **ASCE Conference Proceedings Online**
- o **BuildingGreen** - (BuildingGreen Suite integrates online versions of GreenSpec, Environmental Building News, and a database of more than 160 high-performance building case studies.)
- o **DoE Energy Codes**
- o **Ei Compendex and IISPEC**
- o **Environmental Engineering Abstracts**
- o **Google Scholar**
- o **Home Depot Smart Home**
- o **Knovel: Engineering and Scientific Online References**
- o **MAD CAD** - (NOTE: access to cross-referenced collections of building, electrical, mechanical, plumbing, fire, and maintenance codes from BOCA, SBCCI, ICBO, ICC, and NFPA.)
- o **ScienceDirect**
- o **Statistical Resources**
- o **Statistical Resources on the Web-Energy**
- o **Web of Knowledge**

Eric also needed some ASTM standards for the Solar Coating project. Using **How Do I access ASTM, SAE, ASHRAE, ISO or ANSI standards? Any other standards?** Eric was able to obtain ASTM standards that he needed for the project. **Civil, Architectural, and Environmental Engineering** and **Materials Engineering** Site include a few resources that may also help in future for other projects. See also **Cool Roofs** and **Cool Roofing Materials Database** available from **Heat Island Group Resources**.

Eric found using Knovel very useful since he was able to locate number of electronic handbooks that helped him find properties of materials through researching this database.

Engineering News

Engineering Library Instruction

A graduate student finds IEEE Xplore and ACM Digital Library useful for his class project
6/10/09 - Adil Mudassir, a graduate student in >>>

EngLibrary

High Performance Building Database
6/10/09 - The database collects information from buildings >>>


[See All Blogs >>](#)

Quick Search


The Catalog

Engineering

Click here to ask a question!



DREXEL UNIVERSITY LIBRARIES



DREXEL UNIVERSITY smartHOUSE

Specialized Research Guides

- Engineering and Building Standards
- Interdisciplinary Research Areas
- How to Apply for a Patent

DREXEL UNIVERSITY LIBRARIES

Libraries Home Health Sciences Catalog Resources Research Guides Services About the Libraries

Engineering Standards

Research Guides

- Biomedical Engineering
- CHE 481-483: Process Design — Resources
- Chemical and Biological Engineering
- Civil, Architectural, and Environmental Engineering
- Computer Science & Software Engineering
- Electrical & Computer Engineering
- Engineering Management
- Engineering Standards
- EHGR 193: Engineering Design Lab III — Resources
- Fundamentals of Engineering Research
- MATE 104: Materials for Emerging Technologies — Resources
- Materials Science & Engineering
- Mechanical Engineering
- Nanotechnology
- Patents
- Technical Reports

Using This Guide	Further Assistance or Feedback
<p>NOTE - The full text of a standard may not be available online.</p> <p>The links in this guide will help you determine EXACTLY which standards you need.</p> <p>If the standard is not available online, you should check the library catalog to see if there is a print version of the standard in the collection.</p>	<p>Jay Bhatt Librarian for Engineering PHONE: 215-895-1873 EMAIL: bhattj@dr.exeledu</p> <p>Dana Denick Library Assistant for Engineering and Science PHONE: 215-895-2782 EMAIL: dld58@dr.exeledu</p>

Engineering News

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A graduate student finds IEEE Xplore and ACM Digital Library useful for his class project
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EngLibrary

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[See All Blogs >>](#)

Sections To This Guide

Choose a link to see more details about the engineering standards.

<p>Air-Conditioning, Heating, and Refrigeration Institute</p> <p>American National Standards Institute Online</p> <p>American Society for Testing and Materials</p> <p>American Society of Heating, Refrigerating, and Air-Conditioning Engineers</p> <p>Codes and Code-Related Material</p>	<p>Computer and Communication Standards</p> <p>CSSINFO</p> <p>Department of Energy (DOE) Technical Standards</p> <p>Department of Defense Single Stock Point for Military Specifications, Standards, and Related Publications</p> <p>IEEE Standards</p>	<p>ISO Online International Information Standards Organization</p> <p>International Institute of Standards and Technology</p> <p>IHSII - A national Resource for Global Standards</p> <p>Society for Automotive Standards</p>
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Other Resources

Requesting Materials From Other Libraries

We recommend using EZ Borrow to obtain books from other libraries. You may also use InterLibrary Loan to request standards, journals, articles, books and other materials from other libraries.

[Click Here](#)

Using the Hagerty Library Catalog

[Click Here](#)

Questions and Comments / Get More Help

[Click Here](#)

TOP

Links

Air-Conditioning, Heating, and Refrigeration Institute

AHRI develops and publishes technical standards for industry products. AHRI standards establish rating



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Quick Search

The Catalog

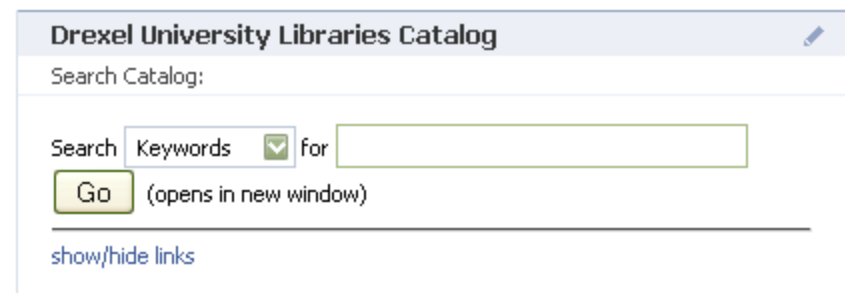
Engineering

Click here to ask a question!

Type here to chat.

Meeting Virtual Information Needs

- **Embedded Library Tools**
 - **Virtual Reference**
 - **Email, IM allows for point of need communication.**
 - **Library Catalog Widget**
- **Library Presence in Student Workspace**
 - **Smart House Wiki**
 - **Facebook**



Freshman Design Instruction

- **Interactive, Web-based Tutorials**
 - **Types of Resources**
 - **Using Resources**
- **Small Class Setting Instruction**
 - **Problem-Based, Active Learning**
 - **Questioning with Incentives**
- **Assessment**
 - **Knowledge Recall, Synthesis of Skills**
 - **Web-based, Timed**

Informal Assessment

- **Smart House Meetings**
 - Perceived value of library involvement
 - Ideas for future implementation
- **Group Consultations**
 - Observation, dialogue and interaction involving information seeking experiences
 - Assessing information needs
 - Student feedback regarding resources and usability – Exit interview
 - Anecdotal record of group research progress

Formal Assessment

- Online survey to assess students' awareness of different tools and technologies
 - Frequency of library resource use
- Information Literacy Instruction
 - Questionnaire to seek understanding of specific information literacy competencies.
 - Student Final Project and Bibliography Evaluation (Citation style, Quality, and quantity, faculty response)

Assessment Question Examples

3. Selecting the Best Reference (Points: 10)

Which of the following is the best reference type for finding background information on Nanotechnology?

- a. patents
- b. journal articles
- c. dictionaries
- d. encyclopedia

Save Answer

4. Finding Reference (Points: 10)

Where can you find the Comprehensive Dictionary of Electrical Engineering?

- a. Hagerty Reference
- b. ENGnetBASE
- c. Hagerty 2nd Floor
- d. a and b only
- e. a, b and c

Save Answer

5. Using Knovel (Points: 10)

Using Knovel, which book includes a chapter listed as *Mechanical Properties of Wood*?

- a. Marks' Standard Handbook for Mechanical Engineers
- b. Mechanical Properties of Wood
- c. Emerging Technologies in Paper Recycling
- d. Wood Handbook

Save Answer

Time		16:42:27		
Allowed		01:00:00		
Remaining		00:58:49		
Question Status				
<input type="radio"/>	Unanswered			
<input type="checkbox"/>	Answer not saved			
<input checked="" type="checkbox"/>	Answered			
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15

6. Using Engineering Village (Points: 10)

Find the recent journal article that Prof. Layton has authored with others focusing on cytoskeleton-membrane interactions. Which journal was this article published in?

- a. Journal of Micromechanics and Microengineering
- b. Journal of Biomechanical Engineering
- c. Acta Biomaterialia
- d. Computer Methods and Programs in Biomedicine

Save Answer

7. Evaluating Journals (Points: 10)

The journal, *Fluid Dynamics Research*, is considered scholarly because

- a. its articles generally contain graphs, charts and tables
- b. it rarely cites sources of information used
- c. its contents generally has newspaper-style formatting
- d. it contains lots of advertising

Save Answer

8. Searching for Journals (Points: 10)

Searching for the journal title, *Journal of Engineering and Technology Management*, in the library catalog brings up

- a. a patent article
- b. a newspaper article
- c. a link to the full text of the journal
- d. the call number of the journal title

Save Answer

Expected Outcomes

- **Collaborative Model**
 - Detailed archive of each project and research endeavor in Smart House Wiki.
 - Continuity of Smart House initiatives and communication
 - Basis for future Library collaborations
- **Successful Student Projects**
 - On campus and regional design competitions - Some projects receive awards through organizations such as EPA.
 - Drexel Smart House being recognized by the Office of Campus Activities as an Outstanding Student Organization
 - Presentation and publication of findings - Projects and papers from the Drexel Smart House be accepted in the National Science Digital Library
 - Apply and receive funding from NSF and other funding agencies.