



Worcester Polytechnic Institute Gordon Library's Information Literacy and Instruction Program

Current State of the Information Literacy Program

In 2009-2010 the George C. Gordon Library staff provided 296 instruction and outreach offerings to 4,754 attendees. Since 2004-2005 the library instruction programs have doubled in both number of offerings and attendees. Sixty-three percent of the sessions were course-related. Forty-five percent of the total instruction & outreach sessions were for IQP project team research sessions required by project advisors or ID2050 instructors. Due to staffing shortages, librarians offered fewer general research workshops (27 sessions vs. 46 the previous year) and focused efforts on course-integrated instruction. Only ten of the sessions were for graduate students.

During summer 2010 the library went through a staff reorganization. At this time a Research & Instruction Department was created by merging instruction and reference and reallocating staff from Access Services. The Research & Instruction department now consists of an Associate Director, four full time and two part time librarians. The research assistance desk is staffed 59 hours, with an additional 10 hours in the morning monitored by research librarians. Of this time, 28 hours per week the desk is staffed by a first-tier of undergraduate Student Research Assistants, with librarians always scheduled to serve at these times as second-tier research support. The Student Research Assistants are trained to help users with directional and basic reference inquiries and to refer more complex requests to the second-tier research librarian scheduled at the time. The new structure enables the Research and Instruction team to better support faculty via our partnership with the Academic Technology Center/Library Liaison program and work with students on lengthier, more complex research inquiries. As a result, the number of research consultations with librarians increased over the past year (162 in FY09 to 297 in FY10). New initiatives such as a "personal librarian" approach within First Year Great Problem Seminar and for each Global Project Center allow librarians to embed within WPI's intensive research project-based curriculum.

More instructors are requesting library-contacts within myWPI course sites. The Research and Instruction team worked with 14 courses in this way over the past year. During the summer of 2010 librarians created research guides on WPI's newly implemented [libguides](#) portal. This portal provides access to research databases, subject research guides (such as Fire Protection Engineering), online tutorials, and many course or lab specific research guides. Personal librarians have created and maintain online research guides for each Great Problems Seminars (GPS) course and for each [WPI Project Center](#). Librarians are embedded within both First Year GPS courses and junior year Global Projects Program experiences, where librarians are each assigned to support specific centers.

Research and Instruction librarians continue to partner with faculty to develop a more systematic approach to incorporating information literacy into the curriculum so that a foundation of core information literacy concepts can be created for all students. The Associate Director is working on an Assessment Plan and has been partnering with the Dean of Undergraduate Studies and a series of student IQP project teams to assess student information literacy at WPI. In 2011 work is underway to map undergraduate outcomes with information literacy offerings. Discussions on reframing information literacy under the realm of digital literacies are also taking place at WPI. New digital environments change the nature of information access as well as the suite of competencies needed

for the changing workplace of the future. Areas of concern include the preparation of students, where in the curriculum digital literacies are being addressed, and how well faculty assumptions match students' abilities. WPI's project-based curriculum provides rich learning opportunities for students and can help them build these necessary skills.

Types of instruction librarians currently offer:

- Orientation sessions for new students and faculty
- Course-integrated sessions
- Web-based self-paced library skills tutorials, often with assessment components, in myWPI Blackboard course site
- Consultations for various groups:
 - IQP – required for those taking ID2050 (Global Projects)
 - Major Qualifying Project consultations by appointment upon request of student team or faculty advisor
 - One-on-one research consultations by appointment for any student, faculty, or staff member
- General programs (usually 30 minutes to one hour) focusing on research skills such as *Cited Reference Searching*, *Patent Searching*, and *Business Plan Resources*
- Educational outreach on products and services once per quarter in the campus center and other academic buildings
- Biannual Library Services and Vendor Fair
- For faculty, the ATC/Library Liaison Program with librarians and instructional technologists who partner to educate and inform faculty

What is Information Literacy?

Association of College and Research Libraries (ACRL), [information literacy competency standards](#) (2000) are outlined with specific outcomes for the [Science and Engineering/Technology](#) area. According to ACRL:

Information literacy is a set of abilities requiring individuals to "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information."

Information literacy forms the basis for lifelong learning. It is common to all disciplines, to all learning environments, and to all levels of education. It enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning.

An information literate individual is able to:

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one's knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally

Information Literacy at WPI: The Current Situation

Although librarians have many positive interactions with students and faculty through course-related instruction offerings and meet with a great number of students each year to enhance their information literacy skills, there are drawbacks to the current lack of incremental information literacy inclusion:

- Redundancy – some students receive the same information three times, others never
- No baseline competency level ever reached by all students
- Students graduate with:
 - Lack of awareness of overall information space and sources; concepts and tools; formats and quality
 - Lack of understanding of driving forces in the research/information life cycle

Adapted from Tenopir & King 2004 p. 111

Benefits of Curricular Integration

- Elimination of redundancy and ability to build upon students' prior knowledge
- Baseline competency level reached by all WPI students
- Alignment with accreditation standards
- Alignment with WPI outcomes

Aligning with WPI Mission & Goal

The library's mission is to collaborate with faculty and campus administrators to ensure that students develop the information literacy skills, attitudes, and knowledge needed in order to become efficient, effective users and producers of information. This is in accordance with [WPI's mission](#) to remain “true to the founders' directive to create, to discover, and to convey knowledge at the frontiers of academic inquiry for the betterment of society.”

Within the undergraduate program, to align with the [WPI goal](#) that the educational process lays “a foundation for life-long renewal of knowledge,” the library instruction program outlined below will provide an incremental, consistent approach to the development of this foundation.

For the graduate students, librarians strive, as the [WPI goal](#) states, to help students gain the information literacy skills needed to “convey knowledge at the frontiers of academic inquiry.”

Meeting Accreditation Outcomes

Accreditation boards already have or are moving towards inclusion of information literacy competencies. Accreditation for WPI programs includes reviews by a number of boards, such as the [New England Association of Schools and Colleges](#) (NEASC) and the Engineering Accreditation Commission of the [Accreditation Board for Engineering and Technology](#) (ABET).

Oxnam (2003), of the University of Arizona, mapped ABET outcomes with the ACRL Information Literacy Competencies. All ABET outcomes require information competencies in some way.

[New England Association of Schools and Colleges, Inc.](#) current standards on *Library and Information Services* include: 7.1 The institution ensures that students use these resources as an integral part of their education. Standards effective January 1, 2006, expands upon this area of the educational impact of the library:

4.6 The institution ensures that students use information resources and information technology as an integral part of their education. The institution provides appropriate orientation and training for use of these resources, as well as instruction and support in information literacy and information technology appropriate to the degree level and field of study.

7.8 The institution demonstrates that students use information resources and technology as an integral part of their education, attaining levels of proficiency appropriate to their degree and subject or professional field of study. The institution ensures that students have available and are appropriately directed to sources of information appropriate to support and enrich their academic work, and that

throughout their program students gain increasingly sophisticated skills in evaluating the quality of information sources.

Librarians continue to work with faculty toward a goal of the integration of key information concepts on a course-by-course basis, but an integrative approach is beneficial in regard to meeting accreditation outcomes. Other disciplinary accreditation bodies have more specific guidelines. According to the American Chemical Society, in addition to their Library Requirements, the [Undergraduate Professional Education in Chemistry ACS Guidelines and Evaluation Procedures for Bachelor's Degree Programs](#) (Spring 2008) include an information resources (4.4) education component (7.2 Chemical Literature Skills). The Association of College and Research Libraries instruction section maintains a wiki on [Information Literacy in the Disciplines](#), a compilation of information literacy standards and curricula developed by accrediting agencies, professional associations, and institutions of higher education. The library works with faculty and administrators to ensure any Information Literacy requirements are met. Librarians are working towards integration of ACRL [Standards for Proficiencies for Instruction Librarians and Coordinators](#) into the work at the Gordon Library.

Enhanced Learning for Students

Despite the pressure coming from an intense term-based schedule, students at WPI are required to perform a great deal of research. The scholarly nature of research needs in Great Problems Seminars, Interactive Qualifying Projects (IQP), Major Qualifying Projects (MQP), and graduate programs demonstrate the need for enhanced learning of information literacy concepts. The point is not to overload students with new information, but to work with faculty to embed or integrate and assess these skills.

Librarians would like to work with the administration to ensure that information literacy outcomes are embedded in university-wide assessment plans. Ultimately, all students will leave WPI with a baseline of information competence which may provide them with a competitive advantage in the future workplace or graduate work.

Vision for Incremental Inclusion of Information Literacy

The plan is to continue to collaborate with faculty, staff, and administrators to work towards an incremental curricular integrated approach. The current goal is to map information literacy concepts and the existing WPI learning objectives to better understand where and how students are learning these skills. Librarians work with faculty to provide resources and research education support that can help faculty, and in turn students, achieve the stated outcomes.

Desired Outcomes and Program Goals

Goals for WPI Students:

After completion of the academic program the information literate student:

- Has awareness of overall information space & sources; concepts & tools; formats and quality
- Has understanding of driving forces in the research/information life cycle
- Can conduct research relevant to chosen career path
- Evaluates information and its sources critically
- Understands & practices ethical use of information

Information literacy skills carry over from the academic setting to professional and personal life. According to a recent report by the American Association of Colleges and Universities, information literacy is listed as an essential learning outcome in the area of *Intellectual and Practical Skills*. At WPI these skills are practiced with real world projects undergraduate students perform as part of their degree requirements. Librarians partner with faculty to infuse these important skills for future engineers and scientists into the curriculum through a project experience completed during their junior year.

Information Literacy outcomes are to some extent realized by the following sequenced integration in the project-based core of the WPI curriculum. Ideally, students will have ample opportunities to practice information literacy skills and reinforce them without much redundancy. Emphasis will be placed on information literacy for lifelong learning, but with course integration that meets students' current academic needs. Librarians are working with faculty to achieve this integrative approach and at the same time work to develop a scalable program that can address changes in enrollment at the university. There is an *emphasis in the teaching of information concepts over specific technical skills*.

UNDERGRADUATE PROGRAM

In 2006-2007, sixty-two percent of WPI undergraduate students were majoring in engineering disciplines. The remaining students major in a variety of sciences, social sciences, humanities and interdisciplinary majors such as Interactive Media and Game Development.

Undergraduate Learning Outcomes, endorsed in 2004 by WPI faculty, state among other key areas that graduates should:

- Be able to identify, analyze, and solve problems creatively through sustained critical investigation.
- Be able to make connections between disciplines and to integrate information from multiple sources.

FIRST YEAR

First Year New Student Orientation – optional librarian-led tour and library skills sessions

Outcome: Gains familiarity with library physical layout, resources and services

Insight Advising Program - Librarians are currently in contact with Academic Advising regarding Orientation Group projects and how to best introduce these students to the information resources needed. Librarians have advertised ideas to Insight faculty and will work with these groups upon request. In fall 2010 librarians met with two INSIGHT groups to familiarize them with access to library databases, e-books and e-journals.

First Year Experience

Great Problems Seminars began at WPI in 2006-2007. The library staff will work with the Associate Dean for the First Year Experience to begin to create a foundation of information competency. Librarians work with 100% of GPS students by offering an in-class 50 minute or 1 hour and 50 minute library research workshop. Often the classes break into three groups to provide hands-on training on database searching and the use of RefWorks within campus computer labs.

Information Literacy outcomes include:

- Increased knowledge of databases & information choices
- Introduction to the ethical dimensions of proper information use

More specifically for Heal the World in fall 2009 outcomes included:

- Using the library catalog, students will access at least one e-book and one print book.
- Using QuickFind from the library's web site, students will access full text articles on health/medical and/or management topics
- Students will add to RefWorks a few items obtained and learn how to output the bibliography (librarians can show them how to add to the classroom database)

FIRST – JUNIOR YEARS

Since there are no required courses intended for all students at WPI the inclusion of information literacy skills into the following, with the exception of the ID2050 Research Methods course, are optional and determined by the instructor.

Elements of Writing – One or two 50-minute library information skills seminars followed with hands-on, assignment-based research. Outcomes include:

- Increases understanding of and gains practice with searching concepts including Boolean logic
- Critically examines information sources and differentiates between scholarly and non-scholarly resources
- Increases understanding of information retrieval resources, such as choosing databases, and selecting appropriate materials
- Practices item retrieval process: in library, getting from citation to full text sources, use of interlibrary loan and consortia libraries

Humanities and Arts Requirement

The Sufficiency requirement has been replaced with an **Inquiry Seminar or Practicum**. Librarians work with many of the faculty who provide seminars to incorporate research workshops and/or information or instruction modules into their myWPI Blackboard course site. Of the five stated goals of the HUA requirement, one directly relates to information literacy:

Research and investigation: to engage students in research, discovery, creativity, or investigation, the seminar/practicum provides opportunities for students actively and critically to seek and evaluate new information and insights using multiple sources. These opportunities need not necessarily be research papers.

Librarians propose the same information literacy outcomes as *Elements of Writing* above but dependent on Seminar focus and outcomes. These information literacy outcomes could be accomplished with general open sessions offered on a registration basis each term. Faculty could suggest or even require students attend where certificates could be awarded upon completion or the librarian could notify faculty of attendance.

Librarians work with some HUA Inquiry Seminars students as faculty send them for research consultations and reference assistance. Librarians offer in-class research workshops for many of the seminars. In addition or instead of in-class research workshops some faculty requested that librarians add information research tools to their myWPI Blackboard course sites. Some faculty required one-on-one research consultations with a librarian. The latter approach is not scalable; staffing issues will not allow us to continue this approach.

Interactive Qualifying Projects (IQPs)

An IQP is a team-based project that examines the impact of science and technology on society. Currently librarians work with all ID2050 students and some on-campus groups. This program is expanding, as time and staff allow, to include on-campus projects by collaborating with faculty advisors.

By partnering with faculty, librarians hope to help students achieve [Learning Outcomes of the IQP](#), specifically those related to Information Literacy. During library interactions with ID2050 courses:

- Students gain an overview of library resources available for research assistance using an online web tutorial and are assessed by two myWPI Blackboard quizzes (see [Research Circuit](#) for Library Skills Tutorial outcomes)
- Teams receive project-specific skills and sources during research consultation with a project center librarian

During the team consultation, librarians are encouraged to address specific information literacy outcomes which suggest students learn to:

- Choose and evaluate appropriate information resources for the project
- Search effectively utilizing Boolean and appropriate keywords or subject headings within Internet search engines and specialized databases
- Find and obtain a wide range of information sources as appropriate such as books, academic papers, review articles, handbooks, case studies, technical reports, and government information
- Identify experts and pertinent organizations in order to track down specialized information
- Use information ethically by appropriate documentation and begin to understand when copyright permission is needed, and how to obtain it

With approximately 300 of each project type (IQP/MQP) each year it may be difficult to meet with each project team. Librarians continue to work with some on-campus teams as well as the required inclusion in ID2050. Librarians created a [checklist for faculty advisors of any project or thesis](#) (Project or Thesis Literature Review Process) and offer Research Circuit/Quiz options to faculty advisors of on-campus projects. In 2011 librarians have started to work with the Interdisciplinary and Global Studies Division to develop educational tutorials for on-campus project teams.

In 2008-2009, ID2050 student self-evaluations continued to indicate that librarian involvement enhances the development of information literacy skills. Most importantly, 94% agreed or strongly agreed that the research consultation with the librarian improved their ability to perform research for this project (up from 93% the prior year). One student summed up the research consultation: “Learning where to look for information was the most crucial part. I had no idea we had so much access to so many different databases, let alone how to get to them.”

Major Qualifying Projects (MQPs)

An MQP is a team-based project usually completed during the senior year that is in the major field of study. The WPI Undergraduate catalog states that, “MQP activities encompass research, development, and application, involve analysis or synthesis, are experimental or theoretical, emphasize a particular subarea of the major, or combine aspects of several subareas. In many cases, especially in engineering, MQP's involve capstone design activity.” MQP outcomes were adopted by WPI in 2009 and include Information Literacy outcomes.

A review of WPI's [outcomes assessment for majors](#) is necessary for the library to align with university goals. Workplace information literacy skills need to be in place by the time students complete their degree requirements. Generally, most majors require a component of lifelong learning and it is expected that engineers and scientists will need to remain well informed in future years in their areas of expertise.

Reviews of past MQP project reports show that references are less than adequate. In 1999, for

Computer Science reports, 25% exhibited poor literature reviews (2001 Hofri & Wills). Salazar's 1999 report of Civil Engineering projects showed that 43% of the reports had a "medium" quality or less literature review. Librarians have devised *Project or Thesis Literature Review Process: a Checklist for Faculty Advisors* which could serve as a starting point for working with advisees on the research process. The library's information literacy outcome for MQPs is for students to gain familiarity with standard information resources related to their major. Librarians hope to work with academic departments to better understand and develop specific outcomes, similar to those listed here. In this way librarians can also partner with faculty to better assess the information literacy learning outcomes.

For Management MQPs, students should:

- Gain knowledge of standard company and industry information sources and strategies
- Differentiate between company internally generated information (10-K, press releases) and externally generated information (analyst reports, trade journal articles)

For Chemistry MQPs, students should:

- Understand the use of appropriate tools such as SciFinder/Chemical Abstracts®, Science Citation Index®, Current Contents®, PubMed®, and other compilations
- Gain experience with online, interactive database searching
- Gain ability to filter and retrieve appropriate content in order to formulate context and more refined focus related to particular project needs
- Demonstrate ability to perform chemical structure searching & process of information retrieval
- Understand and demonstrate knowledge of the information life cycle

Adapted from ACS Guidelines

According to WPI's Career Development Center report on the Class of 2010, 34% of WPI students graduating with their Bachelor of Science went right on to graduate school. Of all 2003 graduates of the bachelor degree program at WPI, 22% went on to graduate school, corresponding with national trends (Tsapogas, 2004). Eventually, the majority of alumni pursue graduate education. The information literacy goals of WPI should include opportunities for preparation for graduate school. In collaboration with the [Career Development Center](#), the [Center for Communication Across the Curriculum](#), and faculty the library can work towards educating students about the ethical use of information (proper citation referencing, use of bibliographic management software) and research geared towards disciplines.

Long range goals include working with division faculty to map professional standards for each major, possibly beginning with the top five majors to develop discipline specific competencies.

Upper Level Research Intensive Course Integration

Librarians help upper-level students build upon information literacy knowledge gained during project-based research education initiatives. For instance, Liaison Librarians work with faculty and students in courses such as Biochemistry to develop knowledge of professional literature and specialized research databases. The plan is to partner with faculty to develop specific goals based on the research assignments embedded within specific courses. Librarians are also available for student or faculty-initiated research consultations on an as needed basis. Research librarians do not feel all students are meeting the performance indicators outlined by the [ACRL Information Literacy Standards for Science and Technology](#). For instance, more work with upper-level students in areas such as the following could be addressed:

- Identifies a variety of types and formats of potential sources for information.

- Understands ethical, legal and socio-economic issues surrounding information and information technology
- Recognizes the value of ongoing assimilation and preservation of knowledge in the field

Career Development Center Collaboration

Through individual and small group sessions, hands-on activities, attendance at the Career and Major fairs and various other presentations, students explore career options and majors through Career Development Center offerings. Some students complete an Individual Career Plan, an optional effort with the Career Development Center. Potential information outcomes desired for students on career development include:

- Gains knowledge of career related information resources
- Increases ability to research professional literature, trade associations, contacts, and industry trends
- Performs company and industry research for career searching (see [Resources for Career Planning guide for Job search strategies](#))

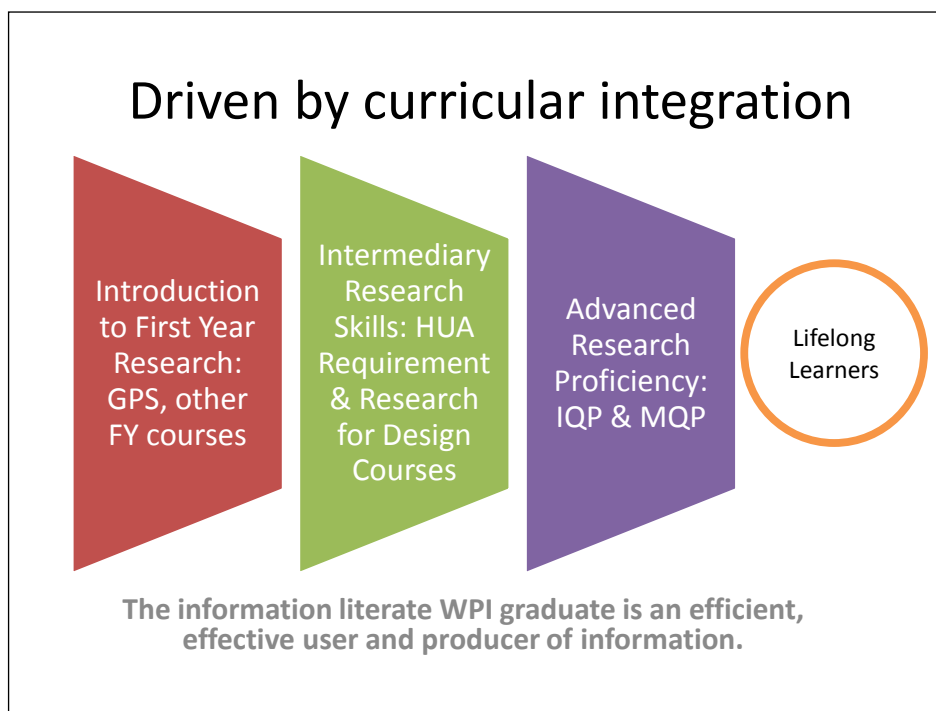
The library currently works with the Career Development Center on occasion to offer joint sessions on research for job hunters.

Collaboration with Academic Departments

Within majors, an understanding of discipline specific information sources and tools is essential for students entering the workplace. As appropriate, librarians work with faculty to offer in-class research skills workshops. In addition, as time allows, librarians work with student chapters of professional organizations to promote awareness of information concepts, sources, and tools of the discipline.

Librarians work specifically with Engineering Design faculty to include resources essential to the major fields of study, whether it is PubMed® for biomedical engineers, or Compendex Web/INSPEC® and technical handbooks for Mechanical Engineers. In addition, librarians teach research tools, concepts, and the basics of patent searching in courses such as: ME2300, ECE2799, and BME3300. Pre- and post-assessments of these students show that their level of knowledge and information literacy skills increased due to the library workshop.

A balance of course integration, point-of-use education at the reference desk, and education of students during research consultations will achieve these goals. An emphasis is placed not on providing answers but shared knowledge of search techniques and concepts that can be reapplied.



GRADUATE PROGRAM

Graduate students need to expand upon their current knowledgebase and be introduced to information literacy concepts that can benefit their academic and future careers. Some graduate students who are coming back for a graduate program after many years find that research tools and techniques have changed tremendously since their undergraduate careers. Graduate students may be embarking on research at a level never before experienced. Others may have come from research environments and need higher level information skills and/or orientation to WPI-specific tools and approaches. As with the undergraduate curriculum, programmatic inclusion would be ideal to ensure student learning embedded into core courses for each major. However, a less integrative approach could be taken initially in order to build information literacy awareness. As of 2007-2008, librarians still have little inclusion into graduate level courses to introduce discipline-specific or advanced research techniques.

According to the [2010 WPI Student Fact Book](#) there are currently 1354 degree-seeking graduate students, up from under 1000 just a year ago. This number is expected to continue to grow in all areas.

Orientation Programs

Currently, librarians offer information on library services in August during the day long graduate orientation process. Another orientation session is being offered for Teaching Assistants, which is an opportunity for the library to educate Teaching Assistants on current resources and tools not only for their own graduate level work, but for their work with undergraduates. In addition, the library offers optional 45-minute library orientations and tours. It is a valuable introduction to the library for those who have the opportunity to attend.

The library offers [Distance Learning Services](#) with specific document delivery services supplied by the Interlibrary Loan office for students taking courses in the Advanced Distance Learning Network (ADLN). However, beyond the online [Library Overview orientation tutorials](#), no course instruction is offered except to School of Business students. In 2011, librarians will be embedded within the new School of Business blended learning program.

On Demand Research Consultations

Librarians offer one-on-one research consultations for Graduate Qualifying Project (GQP) and/or the Master's Thesis, but receive few requests for meetings. A number of graduate students attending workshops on citation management tools (EndNote Web® and RefWorks®).

General Research Workshops & Tutorials

Future workshops, if time and staffing allowed, could be developed for academic programs, consisting of:

- Discipline-specific research (*Key to the Life Sciences Literature, Key to Materials Science Literature*, etc. or tools such as *SciFinder Scholar®: Effective Searching*)
- *Advanced Research for Graduate Students: Refining Queries, Literature Review, Setting Up Alerts, Finding Dissertations & Theses*
- *Survival Guide for Research Assistants*
- Seminar/Panel on *Publishing Your First Paper*
- *Copyright in the Classroom* and ethical use of information
- *Copyright & Publishing*
- *Research Data Management*

Programmatic Inclusion Potential

Librarians could outreach and attempt to attend specific orientations and events for each graduate level degree program as time and staff allowed. Specialized seminars for these groups on information resources and concepts in the discipline could be beneficial. At this point librarians work only with the School of Business program and others on demand, generally through research inquiries or consultation requests. Librarians work with the School of Business students in the following ways:

- Library presentation at the *Graduate Management Orientation dinner*
- Librarians work with Graduate Qualifying Project Students (not required, student initiated consultations)

There is much opportunity to increase the information literacy of MBA and School of Business students.

Corporate and Professional Education

Librarians work with the Corporate and Professional Education ADLN to ensure appropriate research support materials are included within new distance learning online orientation content.

Graduate students are encouraged to seek research help from librarians through telephone, email and chat support. Virtual consultation services are offered to online learners. In 2009-2010, almost 150 student-initiated research consultations were provided by librarians to graduate students.

FACULTY OUTREACH

Since 2006 librarians and instructional technologists in the Academic Technology Center have partnered to create an ATC/Library Liaison program. This program provides a convenient point of contact for faculty and staff to services within the IT Division and Library. Each department has a liaison team comprised of Library and ATC staff. Liaisons work with department faculty and staff to gain an understanding of research and instructional technology needs, make appropriate recommendations, and provide a point of contact for individuals. This venue for outreach has great potential to educate faculty on information resources available to them at the Gordon Library.

CAMPUS OUTREACH

Campus Center Interventions are planned at least once per semester. Librarians reserve a table in a busy location during the mid-day rush at the campus center to offer brief, fun, and engaging, learning opportunities for any student, staff, or faculty member who wishes to participate.

Biannually, the library offers a **Library Services and Vendor Fair**. ScareFest, the most recent fair, was held in October 2009. Students, faculty and staff were encouraged to participate to learn about library databases and related services. There were free refreshments and raffle prizes offered for any of the approximately 300 students, faculty and staff who visited more than three vendor tables.

In 2009 ATC Teaching, Technology and Learning staff relocated to the main entrance level of the library. Summer 2010 the Technology Helpdesk relocated into the library's new Information Commons and now provide a co-located service center for both technology and library support. Opportunities exist to outreach to faculty in various ways.

General Workshops are offered to the entire campus community each term and during the summer months on various topics such as: RefWorks®, EndNote Web®, Cited Reference Searching; Patent Searching Basics, RSS Feeds and Current Awareness, Business Plan Resources, Company Resources. Other special topics, such as Advanced Web Searching, are open to the wider Worcester community and are advertised on the Social Web. Workshops are usually 30 minutes to one hour and are held in Anderson Lab A, one of the library's computer labs.

Conclusion

Although library's main focus is on integrating information literacy into core degree requirements, the Gordon Library has a broad approach to incorporating information literacy into the daily lives of WPI students, faculty and staff.

References

- American Chemical Society. Committee on Professional Training (2003 Spring). Undergraduate Professional Education in Chemistry Guidelines and Evaluation Procedures. http://www.aacu.org/advocacy/leap/documents/GlobalCentury_final.pdf
- Association of American Colleges and Universities. (2007) College Learning and the New Global Century: a Report from the National Leadership Council for Liberal Education and America's Promise. Washington, DC. http://www.aacu.org/advocacy/leap/documents/GlobalCentury_final.pdf
- Association of College and Research Libraries. (2000) *Information Literacy Competencies for Higher Education*. <http://www.ala.org/ala/acrl/acrlstandards/standards.pdf>
- . ALA/ACRL/STS Task Force on Information Literacy for Science and Technology. (2006 June) Information Literacy Standards for Science and Engineering/Technology. <http://www.ala.org/ala/acrl/acrlstandards/infolitcsitech.cfm>
- Association to Advance Collegiate Schools of Business. (Adopted 2003 April, Revised 2006 January) Eligibility Procedures and Standards for Business Accreditation. <http://www.aacsb.edu/accreditation/business/STANDARDS.pdf>
- Bruce, C. S. (1999) "Workplace Experience of Information Literacy." *International Journal of Information Management*, 19 pp. 33-47.
Identifies the seven ways of effectively identifying and using information. Ultimately information competence is using information wisely for the benefit of others.
- Case, T. L. & Pickett, J. R. "R&D Information Systems." *Research Technology Management*. July/August, 1989, p. 29-33. Case and Pickett surveyed 74 large corporations and demonstrated the need for information competence in industry.
- Drew, C. (2004 Dec) *Summary of Student Results of ID2050 – Searchpath and Librarian Interaction*. Unpublished document. Gordon Library, Worcester Polytechnic Institute.
- . (2006 Aug) *Summary of Student Results of ID2050 2005-2006 – Searchpath and Librarian Interaction*. Unpublished document. Gordon Library, Worcester Polytechnic Institute.
- . (2007 Aug) *Summary of Student Results of ID2050 2006-2007 – Research Circuit and Librarian Interaction*. Unpublished document. Gordon Library, Worcester Polytechnic Institute.
- DiBiasio, David. (2005 July 26) *Results of Summer 2004 IQP Review*. <http://www.wpi.edu/Academics/Outcomes/iqpreview2004.pdf>
- Donaldson, C. A. (Spring 2004) "[McKinsey Strategic Problem-Solving Model](#): The McKinsey Strategic Problem-Solving Model Adapted to Teach Information Literacy to Graduate Business Students." *Library Philosophy and Practice* 6.2. <http://www.webpages.uidaho.edu/~mbolin/donaldson.html>
- Drucker, Peter. "The Information Executives Truly Need." *Harvard Business Review*. Jan/Feb, 1995, pp. 54-62. The need for systematically integrating information into decision making.
- Fidel, R. & Green, M. (2004) "The Many Faces of Accessibility: Engineer's Perception of Information Sources." *Information Processing and Management* 40, 563-581.
- Hofri, M. & Wills, C. E. (2001) *Computer Science Department MQP Review*. Worcester Polytechnic Institute. WPI-CD-TR-01-18. Computer Science Technical Report Series.
- Nerz, H. F. & Weiner, S. T. (2001) "Information Competencies: A Strategic Approach." *Proceedings of the 2001 American Society for Engineering Annual Conference & Exposition*.
- New England Association of Schools and Colleges, Inc. (2005) *Commission on Institutions of Higher Education Standards for Accreditation*. <http://www.neasc.org/cihe/stancihe.htm>
- Oxnam, Maliaca. (2003) "[The Informed Engineer](#)." 33rd ASEE/IEEE *Frontiers in Education Conference* Nov 5-8, 2003 Boulder, CO.

- Palmer, S. & Tucker, B. (2004 March) "Planning, Delivery and Evaluation of Information Literacy Training for Engineering and Technology Students." *Australian Academic & Research Libraries* 35(1) pp. 16-34. See also their [conference presentation online](#).
- Salazar, Guillermo. (1999 August) *Major Qualifying Project review Academic Year 1997-1998, 1998-1999* Worcester Polytechnic Institute Department of Civil and Environmental Engineering.
- Schachterle, Lance. (2002 November 6-9) "[Sustaining a University-wide Approach to Comprehensive Outcomes Assessment](#)." 32nd ASEE/IEEE Frontiers in Education Conference. <http://www.wpi.edu/Academics/Outcomes/sustaining.pdf>
- Tenopir, C. and King, D. W. (2004) *Communication Patterns of Engineers*. IEEE Press.
- Tsapogas, J. (2004 May) "Employment Outcomes of Recent Science and Engineering Graduates Vary by Field of Degree and Sector of Employment." *Science Resource Statistics InfoBrief NSF-04-316* Retrieved December 21, 2004 from <http://www.nsf.gov/sbe/srs/infbrief/nsf04316/start.htm>
- Worcester Polytechnic Institute. (2007 Oct) 2007 *Student Fact Book*. Office of Enrollment Management. http://www.wpi.edu/Images/CMS/AO/2007_Factbook.pdf
- . *Career Development Office 2010 Post-Graduation Statistical Report*. <http://www.wpi.edu/Admin/CDC/class847.html>
- . *Undergraduate Learning Outcomes*. <http://www.wpi.edu/Academics/Depts/IGSD/outcomes.html>
- . (2004) Learning Outcomes of the Interactive Qualifying Project. <http://www.wpi.edu/Academics/Depts/IGSD/outcomes.html>

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