



#### Library Support for ABET Accreditation April 2013

DRAFT – all content and figures can be edited; additional data available per your needs

Today's university library has a three-fold mission: to provide physical and virtual places for learning, study, and research; to be a user-focused portal to relevant scholarly information; and to provide trained information professionals who offer a wide range of services that support the academic and research enterprise. This report documents how the Dudley Knox Library (DKL) supports the ABET-accredited curricula and research at the Naval Postgraduate School (NPS).

The Dudley Knox Library "contributes to learning, research and teaching -- anytime, anywhere -- through relevant and evolving collections, tools, services, and spaces designed for NPS patrons of today and tomorrow" as evidenced by our four strategic goals:

#### **DKL Strategic Goals:**

Select and provide **Scholarly Content** relevant to NPS instructional and research needs

Promote **Seamless Access** and remove barriers to collections, people, and services

Create Learner-Centered physical and virtual Spaces

Assure **Institutional Memory** through a centralized repository for the NPS scholarly record and archival materials

In particular, the instruction and research programs of the Graduate School of Engineering and Applied Sciences (GSEAS) benefit from the Library's commitment to supporting the Naval Postgraduate School (NPS) mission *"to provide high-quality, relevant and unique advanced education and research programs that increase the combat effectiveness of the Naval Services, other Armed Forces of the U.S. and our partners, to enhance our national security."* 



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## Background

The Dudley Knox Library consistently receives the highest customer satisfaction ratings (>90%) of all NPS services (based on results from quarterly student exit surveys and biennial faculty/staff surveys).

The Library's annual budget of approximately \$4.9 million, while declining in recent years, supports a rich combination of content collections, library services, and 31 FTE staff dedicated to facilitating graduate education and research across NPS subject areas.

No library stands alone. DKL actively partners with academic, federal, and special libraries (including other military universities such as US Naval Academy, Naval War College, and the Air Force Institute of Technology) and library consortia (such as the Consortium of Naval Libraries, the National Research Library Alliance, and the California-based Pacific Library Partnership) to leverage limited budget dollars and invest in collaborative acquisitions, joint-licensing agreements, and resource sharing that extend content offerings to NPS patrons beyond what we could afford on our own.

A dedicated and motivated staff supports all of the Library's resources and excels at customer services that support the NPS mission. DKL anticipates and responds to current and emerging educational program requirements and invests in leading edge technology and services to assist library patrons with their information needs. DKL observes and meets the standards established by NPS's principal accrediting body, the Western Association of Schools and Colleges (WASC), as well as the accreditation standards set for specific academic programs such as ABET.



# Library as Place

The Library building (100,000 sq. ft.) is open 7 days a week for an average 86 hours per week (with additional extended hours during finals week). In addition to physical and virtual collections and services, the Library provides a wide variety of individual- and group-collaborative spaces, computers, and peripherals for onsite resident student use:

- 113 individual study carrels
- 19 collaborative group study rooms (6 equipped with interactive audio visual systems)
- 4 designated large group study areas with furniture designed to facilitate collaborative use
- 3 conference rooms (with interactive audio visual systems)
- 69 public access computers
- 8 networked multi-function devices (copy, print, scan, email, fax)
- 2 standalone microformat reader/printers and 2 color scanners
- 110 storage lockers
- miscellaneous peripherals such as: digital voice recorders; a television monitor with VHS and DVD players; headphones; network cables; patron self-checkout machine; 3 plasma public messaging screens; and portable interactive audio visual system.

Restricted Resources and Services (RRS), a separate "classified" library within the DKL building, provides a full range of collections, equipment, networks, meeting spaces, lockers and librarian-provided services for "limited distribution, restricted, or classified materials up to the SECRET level." Authorized patrons have access to the RRS library during all hours that the Library is open as well as through an online database that provides access to full-text NPS limited-distribution materials 24/7.

Special Collections and Archives (SCA) houses archival materials and artifacts with a focus on the history of NPS and its predecessors (including the Hotel Del Monte); rare books on naval and military history; scientific instruments and artifacts; and institutional/faculty publications and files.

As part of a shift from print to online, the Library is conducting a major ongoing weeding project to ensure that the collection is current, relevant, and accessible. To date, this project has enabled us to consolidate much of the physical print collection into compact mobile shelving to open up more than 5,000 sq. ft. of additional workspaces for patrons.

Group and individual study areas are co-located near staffed library service points as well as located at more distant parts of the Library to satisfy a range of learning/study styles.

The Knox Library building provides the home and meeting place for many critical NPS support groups: DKL; Center for Educational Design, Development, and Distribution (CED3); Faculty Development; Homeland Security Digital Library (HSDL); and the future Graduate Writing Center (scheduled to open July 2013). DKL is central to the campus community and provides collaborative opportunities for librarians, students, faculty, and staff.

The bar is raised for all when new technologies, practices and resources are exchanged, and the result is better service to NPS clientele. For example, librarians collaborate with CED3 to create relevant orientation and instruction modules in formats that reach patrons where they are, in particular to reach NPS' distance learning (DL) students. Librarians collaborate with the Director of Faculty Development on projects that help faculty better prepare for teaching and assessment of student learning.

#### Student Research Helps Library Improve Services

A Naval Postgraduate School (NPS) course on survey research methods has provided critical data on distance learning (DL) student usage of the Dudley Knox Library (DKL). Operations Research Associate Professor Dr. Ron Fricker revealed the data, captured by his 0A4109 Survey Research Methods class, to NPS students, faculty and staff during a presentation at the library, Dec. 8, 2011.

See full article



Comments (0)



# **Library Collection**

DKL currently spends \$1.7 million on content (35% of the total library budget):

- 55% for journals
- 43% for databases (full-text, eBooks, and abstracting/indexing services)
- 2% for print monographs

The Library provides centralized discovery of and access to licensed and NPS-created content through various collections and formats, which serve as some of the primary assets supporting NPS educational and research efforts in ABET accredited disciplines.

Content for the various collections is overseen and developed by subject librarians who monitor current scholarly publishing and collaborate with engineering faculty to stay alerted to new journals and publications that might be useful to support NPS engineering curricula. A Library Impact Statement (LIS), created for each proposed academic program, identifies existing and proposed resources and services needed to support new programs. The LIS becomes part of the formal NPS New Program Review package. We encourage faculty to recommend new resources appropriate to their areas of teaching and research. Journals and database subscriptions are reviewed annually and we provide reports to and solicit feedback from faculty on additions, cancellations, and changes. This process has served NPS well and together we have built a strong online collection of materials in science and engineering.

DKL materials expenditures per instructional faculty are on par with our NPS peer and comparative research institutions respectively, although slightly below the median (Figures 1 and 2). Comparable materials expenditures per full time graduate students are also on par with our peers. (See Appendix A). Budget cuts in FY12 and FY13, coupled with increasing costs and uncertainty about FY14 may jeopardize our ability to continue current levels of content, services and staffing.

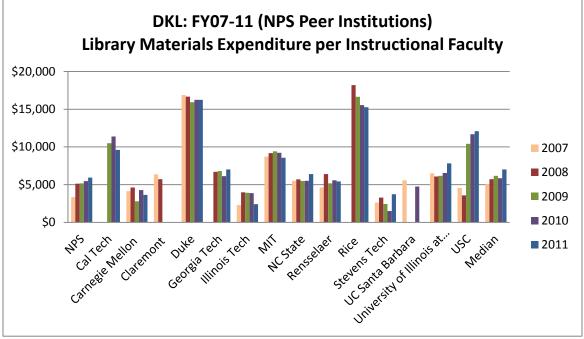
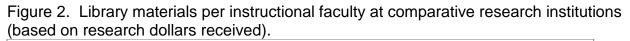
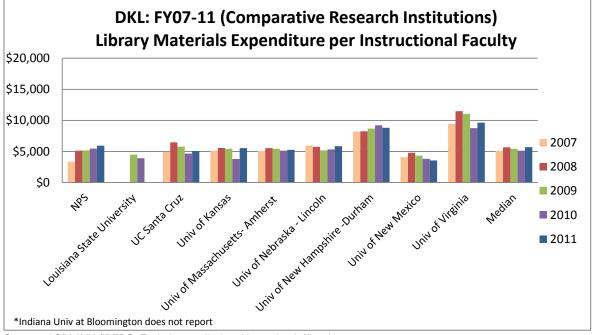


Figure 1. Library materials per instructional faculty at NPS peer institutions.

Source: ACRL/ARL/IPEDS: Excludes medical and law schools/libraries.





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#### Main Collection

The main collection is comprised of print and electronic monographs (books, conference proceedings, government documents, and technical reports), journals, NPS capstones (theses, dissertations, and professional reports), and maps/nautical charts. An online catalog provides 24/7 access to these materials and DKL shares bibliographic records with the international OCLC database to make NPS-created content more broadly discoverable outside of NPS. DKL has been a selective federal depository since 1963 and makes government documents freely available via our catalog or to anyone using the Library. Items from DKL collections circulate locally as well as remotely and DKL borrows/obtains materials from other libraries (via Interlibrary Loan) that are delivered directly to patrons via mail or electronic means (see Appendix B).

#### Calhoun, the NPS Institutional Archive http://calhoun.nps.edu

Figure 3. Engineering content accessible through Calhoun.

NPS now has a single repository for the scholarly work of NPS, including Technical Reports, Patents, NPS graduate thesis work and scholarly articles plus institutional publications. Calhoun currently hosts 31,000 documents including NPS and predecessor theses dating from 1923. Calhous is full-text searchable and Google-indexed and statistics are available at the collection and document level. NPS engineering programs, including for Electrical and Computer Engineering, Mechanical and Aerospace Engineering, and Systems Engineering, were quick to adopt the Calhoun platform (Figures 3 and 4).

NPS Engineering program content in Calhoun is available to a global network of interoperable institutional repositories and metadata harvesters such as (OpenDOAR: <u>http://www.opendoar.org/</u>). This provides greater visibility to Engineering scholarship happening here at NPS, and means Calhoun can be a significant career tool for NPS graduates.

Calhoun collections include:

- <u>Electrical and Computer</u> Engineering Reports
- <u>Mechanical and Aerospace</u>
   <u>Engineering Reports</u>
- <u>Systems Engineering Community</u>

# Recent Engineering scholarship in Calhoun:

- Ship-to-shore data communication and prioritization
- Characterization of carbon nanotubeenhanced water as a phase change material for thermal energy storage systems
- Network centric communications for expeditionary or carrier strike groups
- Direct manufacturing of CubeSat using 3-D digital printer and determination of its mechanical properties
- The mitigation of radio noise and interference from on-site sources at radio receiving sites

The department of Systems Engineering (SE), for example, makes Calhoun the first point of contact for SE output at NPS, with a purpose-built webpage (Figure 4).



#### Figure 4. Systems Engineering collection landing page.

### **RRS and the Controlled Access Catalog**

In addition to public release and open access products, the Dudley Knox Library also supports engineering and technology programs with its Restricted Resources and Services (RRS) which collects and archives NPS's restricted and classified products. Documents are available to appropriately cleared patrons through tools and networks that meet DoD requirements for access to restricted materials. Our Controlled Access Catalog (CAC) is available to authenticated users and provides access to the electronic copy of unclassified restricted NPS documents in the Library's collection from 2006 to the present. Students use these documents to conceptually understand the place of their work within earlier NPS efforts, as well as sources of data for their current thesis work. In fact, nearly 23% of NPS produced items in the Library's restricted collection are from engineering and technology programs.

#### Licensed Databases

We offer access to a wide range of licensed databases that index scholarly literature and often provide full-text to users. Many of these are of particular interest to our various engineering programs, including: *ASME Digital Library*; *Wiley Interscience*; *ENGnetBASE: Engineering Handbooks Online; Engineering Village 2; IEEE/IET Electronic Library*; and the *Web of Knowledge*. (See Appendix C for a complete list.) Approximately 65% of our FY12 database expenditures were for the engineering, science and technology databases that engineering students need most.

Usage of all DKL-licensed electronic resources is on the rise. Figure 5 presents a summary of our top nineteen ("Nifty Nineteen") most popular electronic resources, many of which support GSEAS either directly or indirectly.

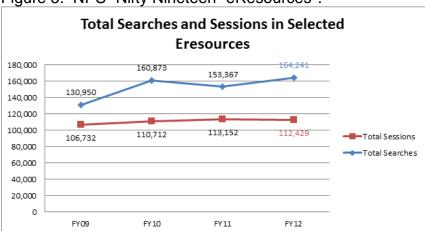


Figure 5. NPS "Nifty Nineteen" eResources\*.

\* Nifty Nineteen eResources include: ACM Digital Library; CIAO-Columbia; CRCNetBase; Ebrary; EBSCO Business Source Premier; EBSCO SocIndex Full text; Emerald; EV2 Compendex; Global NewsBank, IEL (IEEE); JSTOR; Lexis Nexis Academic; ProQuest ABI Global; Proquest PsycINFO; Project MUSE; ScienceDirect; SPIE Digital Library; Science Citation Index; Social Science Citation Index.

#### <u>Journals</u>

With the growing interest and need for 24/7 access to materials by both resident and distance students, DKL is largely licensing online journals only and, as funds are available, buying digital back files to important journal collections. With faculty and student input and support, the purchase of online back files has also enabled us remove large print runs and create more collaborative space for our on-campus users. An active Interlibrary Loan (ILL) program provides rapid access to materials DKL does not own and we scan and send materials from our collections via Document Delivery (DD) (see Appendix B for details). Librarians monitor ILL requests and statistics to identify heavily requested journals and research trends in new subjects or areas that might not have been well supported in the past.

DKL subscribes to approximately 200 individual science and engineering journal titles and another 1,700 or so that are bundled into various database/journal packages (e.g. ACM, IEEE, SPIE, etc.). Approximately 33% of our total journal subscriptions support ABET-related disciplines (Table 1), and represent scholarly journals with the highest impact-factors (Table 2).

110

108

# Online Titles Subject Aeronautics/Astronautics 71 Computer Science 110 1365

Engineering

Electrical Engineering

Mechanical Engineering

Table 1			(in alu din a	nookogoo)
Table I.	Engineering-related	a journal lilles	(incluaing	packages).

Military Science	138	

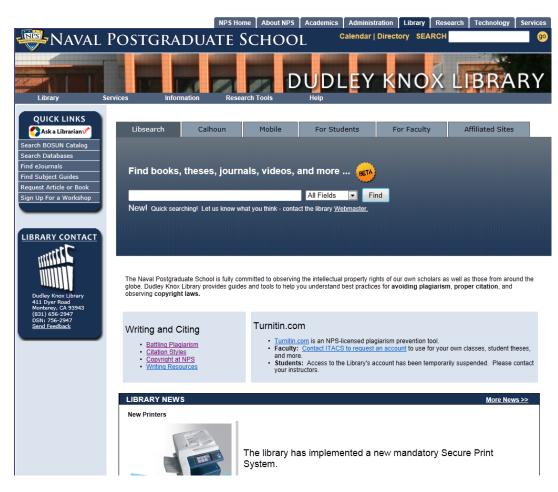
Table 2. DKL highest impact engineering-related journals.

Title	5 Year Impact Factor
Systems Engineering	
ADMINISTRATIVE SCIENCE QUARTERLY	6.545
ORGANIZATION SCIENCE	5.613
JOURNAL OF PRODUCTION INNOVATION SCIENCE	3.64
ENERGY	3.858
APPLIED PHYSICS LETTERS	3.787
IEEE TRANS ON SYSTEMS, MAN, AND CYBERNETICS, PART B: CYBERNETICS	3.337
Machanical 9 Acroonada Engineering	
Mechanical & Aerospace Engineering	
PROGRESS IN ENERGY AND COMBUSTION SCIENCE	17.133
INTERNATIONAL JOURNAL OF PLASTICITY	4.738
PROGRESS IN AEROSPACE SCIENCES	3.554
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER	2.913
IEEE-ASME TRANSACTIONS ON MECHATRONICS JOURNAL OF MICROELECTROMECHANICAL SYSTEMS	2.852
Electrical and Computer Engineering	
IEEE SIGNAL PROCESSING MAGAZINE	6.522
PROCEEDINGS OF THE IEEE	6.46
IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE	6.085
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS	5.337
IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS	5.337
IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS	4.84

#### **Books**

Approximately 40% of the print book collection supports ABET-related topics. The engineering disciplines predominantly rely on high-cost journal literature, conference proceedings, and standards rather than books. This fact, coupled with continued inflation of journal prices, means that DKL is spending very little on print books. Instead, we are focusing on patron driven requests in the form of eBooks, eConference Proceedings etc. (many of which are including in our large databases) to support engineering disciplines.

Librarians collaborate with faculty and monitor interlibrary loan requests for books that support ongoing dissertation topics. We current purchase books only by patron demand to support course reserves, and if warranted by ILL copyright restrictions. Books are procured "just in time" rather than "just in case."



#### Dudley Knox Library is available to patrons 24/7 – anytime, anywhere.



### Library as Portal <a href="http://www.nps.edu/Library">http://www.nps.edu/Library</a>

As the primary information portal to selected scholarly content, the Library team works hard to meet our mission through accomplishment of our goals.

#### Web services

Virtual and remote access, vital to the success of resident and distance learners (DL), extends the Library's ability to serve all NPS students and faculty anywhere in the world no matter what time zone they are in. The Library's robust and dynamic website provides access to thousands of information resources as well as a broad spectrum of in-person and web-based services, guides and tutorials. The Library maintains a proxy server to enable NPS authorized users (current as well as alumni patrons) to access our licensed content 24/7. The NPS-enterprise Virtual Private Network is also available to authorized patrons.

The significant growth of DKL's online services over the past several years include the launch of DKL's mobile site [http://mdkl.nps.edu] and DKL's "LibSearch," an open source federated search [http://libsearch.nps.edu]. These mobile compliant platforms provide user-friendly interfaces that help users quickly retrieve the information they need. LibSearch allows users to conduct faceted, post-coordinated searches, similar to the search-and-refine user behavior of Google searches. LibSearch harvests DKL's catalog, with full MARC record indexing, along with content and metadata from Calhoun, the NPS Institutional Archive, providing users a more streamlined search experience.

The DKL Web Working Group (WWG) is analyzing the current content, information architecture, and navigation of the Library's website and designing a new prototype based on data gathered from student/faculty usability studies, industry standards, other successful library sites, and scholarly literature. Feedback from all institutional surveys suggests that our patrons find DKL's rich resources difficult to find so the goals of our current website realignment include: improved usability based on user-centered design, increased findability of materials, and support our goal to provide seamless access and removing barriers to information resources. We are also implementing small changes to our existing site that are quick to implement and provide high return on investment for our users. The WWG is carrying out these two processes in tandem in order to achieve our realignment goals.



## Librarian Subject Liaisons and Services

#### **General services**

Four reference librarians share responsibility for providing reference, research assistance, and library-related instruction/outreach to NPS students, faculty and staff. The RRS librarian is an additional librarian providing the same capabilities while supporting activities with limited/classified documents. All DKL librarians have security clearances that enable them to work in a variety of systems and provide assistance to all patrons.

The Library offers reference and in-depth research assistance through a variety of means to meet the needs of both resident and distance students including in person, by appointment, online via chat, email and text messaging, and by telephone. A new service, launched in March 2013, enables students and other patrons to search a growing knowledge base of frequently asked questions (FAQ) so that they are more easily able to find the help they need on their own-anytime, anywhere. (See http://libanswers.nps.edu for examples.)

Resident students take advantage of the numerous in-person instructional "sessions" the Library offers on various research tools and techniques (Table 3). Librarians also offer basic introductory workshops to DL students using Elluminate Live. The Library's YouTube channel provides access to a recorded introduction to using the library for research and will offer a wide range of short tutorials over time. (See http://www.youtube.com/user/NPSDudleyKnoxLibrary).

Table 3. Reference and instruction statistics (FY 2007-2012).							
FY07 FY08 FY09 FY10 FY11 FY11							
Reference Questions*	4145	4091	4656	4574	4496	4633	
Instruction Sessions	170	168	191	190	210	223	
Instruction Sessions Participants	2679	2635	2990	2934	3221	3408	
Instruction Hours	225	222	252	248	240	309	

\*Does not include questions asked at Circulation Desk, Restricted Resources, or Special Collections & Archives

#### Engineering-focused services

Glen Koué and Jeff Rothal are the "subject specialist librarians" supporting NPS science, engineering and systems engineering programs. They create and maintain topical web pages and handouts; provide curriculum-focused and resource-specific library instruction; and offer reference and research consultations by appointment.

In addition to the library-based workshops, subject librarians, working with individual faculty and administrators, go into the classroom to provide course-tailored sessions that teach students about library resources and research strategies (Figures 6 and 7).

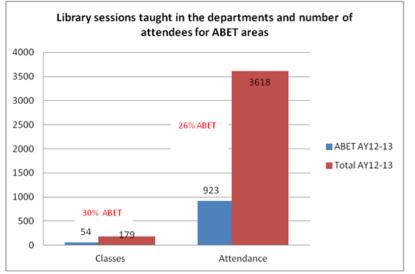
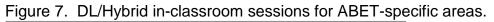
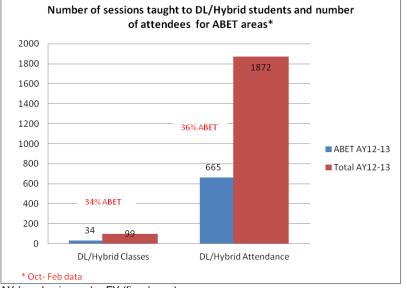


Figure 6. Resident in-classroom sessions for ABET-specific areas.

AY (academic year) = FY (fiscal year)





AY (academic year) = FY (fiscal year)

For example, Systems Engineering (SE) resident and DL students receive instruction during their first orientation meeting (the librarian appears in the classroom or live via VTC as part of their NPS support team). SE students meet the librarian again in their "SE3810 Systems Engineering Seminar". In the case of Electrical Engineering, the librarian routinely provides a 45-minute instruction session as part of the students required "Introduction to Graduate Research" course. Finally, a librarian is "embedded" in Space Systems "SS3011Space Technology and Applications" (Figure 8), one of this program's first required courses, and is able to provide instruction and respond to students' questions "at the point of need."



Figure 8. Librarian embedded in Sakai course management system.

These efforts enable DKL staff and patrons to work collaboratively side-by-side, synchronously and asynchronously, to utilize library systems and tools to explore information resources from our collections as well as learn more effective research skills. Through these efforts, we continued to teach and empower our patrons to interact with content, library staff, and each other in dynamic and effective ways—promoting current success and critical thinking/lifelong learning skills.

Librarians consult with faculty who want to add links to library resources to their course sites. Supporting handouts and resource guides (Appendix D) are available in print, may be downloaded from the Library's website, or may be linked directly in individual Sakai course sites.

Librarians provide additional outreach and instruction to science, engineering and systems engineering students and faculty through a wide range of web-based "subject guides" that are linked from the DKL website. These cover not only areas of topical interest such as <u>Astronautics & Space Systems</u>, <u>Systems Engineering</u>, <u>Satellite</u> <u>Communications</u> and <u>Unmanned Systems (UxS)</u> but also other important information on

academic writing, such as <u>Battling Plagiarism</u>, <u>Citation Styles</u>, <u>Thesis Resources</u> and <u>Writing Resources</u>. (http://www.nps.edu/Library/Research%20Tools/Subject%20Guides%20by%20Topic/index.html).

Collaborating with faculty, DKL librarians empower students to discover, learn about and use Library resources at their point of need and in support of lifelong learning.



### Conclusion

The staff of the Dudley Knox Library deliver highly valued content, programs, and services that *"contribute to learning, research and teaching"* in support of graduate instruction and research at NPS. DKL embraces this role, serves our constituency with pride, and garners the highest customer satisfaction ratings and feedback from NPS students, faculty and staff as well as from alumni and visitors from around the globe.

Additional data and demonstrations in support of ABET are available upon request.

For more information: FY12 DKL Annual Report http://libguides.nps.edu/annualreport2012

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The Dudley Knox Library contributes to learning, research and teaching -- anytime, anywhere -- through relevant and evolving collections, tools, services, and spaces designed for NPS patrons of today and tomorrow.

**DKL Strategic Goals:** 

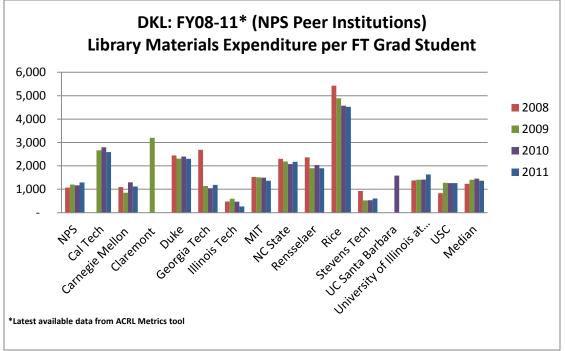
Select and provide Scholarly Content relevant to NPS instructional and research needs

Promote Seamless Access and remove barriers to collections, people, and services

Create Learner-Centered physical and virtual Spaces

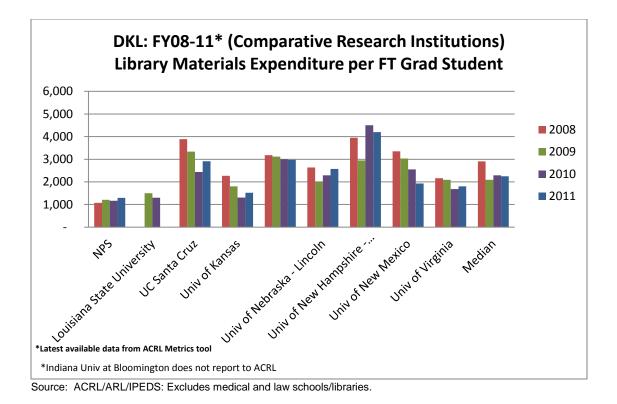
Assure Institutional Memory through a centralized repository for the NPS scholarly record and archival materials

## Appendices



Appendix A. Library materials expenditures per full time grad student.

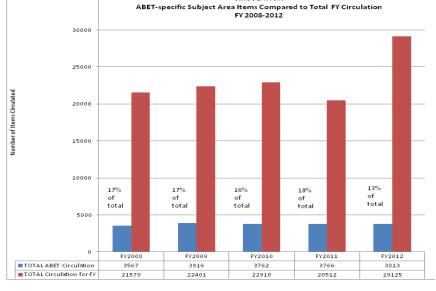
Source: ACRL/ARL/IPEDS: Excludes medical and law schools/libraries.



### Appendix B. Circulation, Document Delivery and Interlibrary Loan.

DKL print circulation statistics by Library of Congress (LC) Classification/Subject Area.

		FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
Q	Science	118	165	190	156	16
QA	Mathematics	1095	1288	1220	1223	117 <sup>.</sup>
QB	Astronomy	19	21	28	24	34
QC	Physics	359	415	461	403	40'
QD	Chemistry	22	17	16	35	59
т	Technology	177	182	161	354	399
ТΑ	Engineering	254	348	410	367	42:
тс	Hydraulic Engineering	6	12	21	11	ç
TD	Environmental Technology	15	3	15	5	9
TE	Highway Engineering	0	0	0	0	4
TF	Railroad Engineering	1	0	1	0	,
TG	Bridge Engineering	0	0	0	1	(
ΤН	Building Construction	4	10	7	14	;
ТJ	Mechanical Engineering	152	135	92	97	82
тк	Electrical Engineering	599	599	504	457	401
TL	Motor Vehicles, Aeronautics, Astronautics	300	285	259	249	27
ΤN	Mining Engineering, metallurgy	8	8	4	14	2
ΤР	Chemical Technology	18	10	12	. 17	18
TS	Manufacturing	69	64	64	46	22
UG	Military Engineering	304	317	281	252	284
∨м	Naval Architecture / Marine Engineering	47	37	16	41	5
	TOTAL ABET Circulation	3567	3916	3762	3766	381:
	TOTAL DKL Circulation for FY	21579	22401	22910	20512	2912
	% of CIRC FOR LC CLASSES PRESENTED	17%	17%	16%	18%	13%

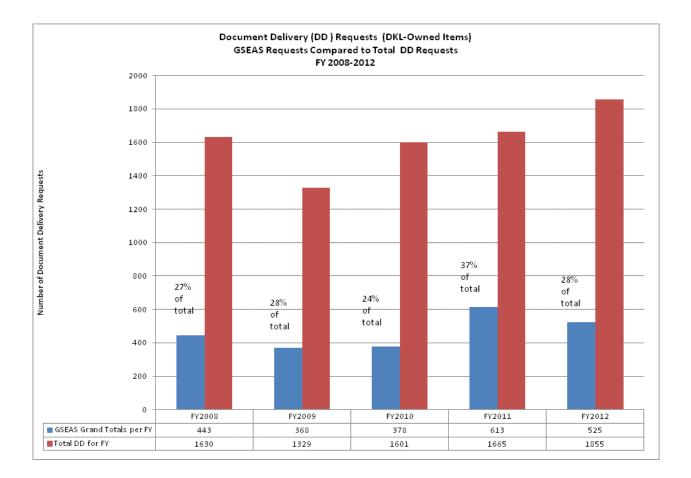


Curric (Students)			· · · · · · · · · · · · · · · · · · ·	FY 2011	FY 2012
311 - Systems Engineering DL	7	11	4	7	12
316 - Space Systems Operations DL				2	9
364 - Space Systems Operations International					
366 - Space Systems Operations	12	6	1	10	
372 - Meteorology	37	25	3	8	12
373 - Meteorology & Oceanography	3	3	10	12	
374 - Operational Oceanography	3		2	10	
380 - Applied Mathematics		2		1	
440 - Oceanography	4	14	5	28	8
525 - Undersea Warfare		7	2	8	7
526 - Undersea Warfare International		10		1	
533 - Combat Systems Science & Engineering	55	21	45	45	85
570 - Naval/Mechanical Engineering	2	34	23	95	85
571 - Reactors - Mechanical /Electrical Engineering DL				2	
572 - Mechanical Engineering for Nuclear Trained Officers DL				1	3
580 - Systems Engineering		1	2	8	16
581 - Systems Engineering PhD					1
590 - Electronic Systems Engineering	18	13	4	6	2
591 - Space Systems Engineering	9	24	19	14	23
592 - Electronic Systems Engineering DL			9	5	3
Certificate (Students)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
721 - Product Development for the 21st Century	17	33	2	17	. 16
273 - Space Systems Certificate Program	11	11	4	36	9
282 - Systems Engineering Certificate		1	1		1
Sub Totals (students)	178	216	136	316	292
Departments (Faculty/Staff)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
ECE - Electrical & Computer	22	7	8		1
Engineering					
MA - Applied Mathematics	17	17	15	46	6

Document Delivery (materials from DKL-owned collections).

Dudley Knox Library Support for ABET, April 2013

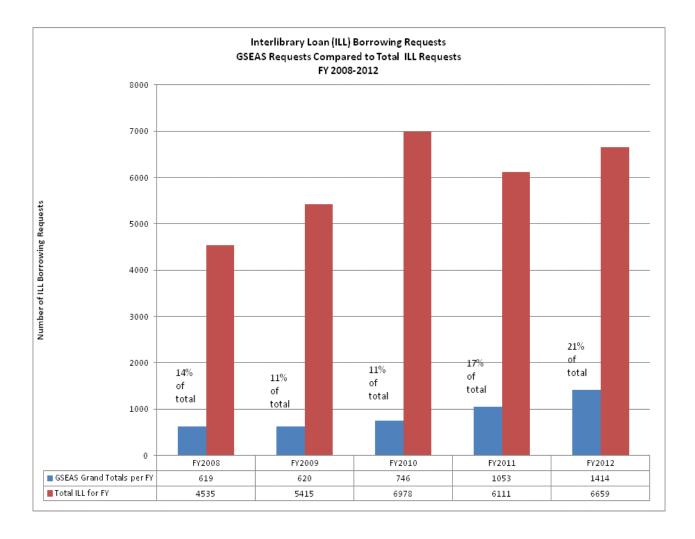
MAE - Mechanical & Aerospace Engineering	128	48	46	100	81
MR - Meteorology	8	3		4	
OC - Oceanography	20	18	6	20	32
PH - Physics	25	26	118	33	76
SP - Space Systems	13	3	3	5	12
SE - Systems Engineering	27	28	46	83	25
USWAG - Undersea Warfare Academic Group	5	2		5	
Sub Totals (faculty/staff)	265	152	242	297	233
GSEAS Grand Totals per FY	443	368	378	613	525
Total DD for FY	1630	1329	1601	1665	1855
GSEAS % of DD	27%	28%	24%	37%	28%



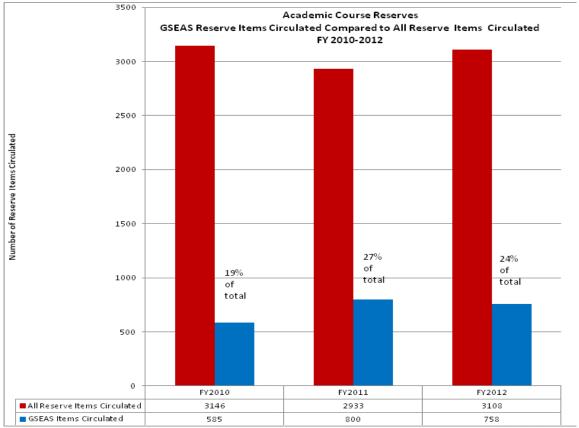
Curric (Students)				FY 2011	FY 2012
311 - Systems Engineering DL			11	11	
316 - Space Systems Operations DL					8
364 - Space Systems Operations International	0	2	0	1	
366 - Space Systems Operations	9	24	4	14	1
372 - Meteorology	29	21	11	8	11
373 - Meteorology & Oceanography	11	11	4	16	8
374 - Operational Oceanography	1	1	7	68	96
380 - Applied Mathematics	14	6	0	2	
440 - Oceanography	1	42	14	62	4
525 - Undersea Warfare	3	4	9	31	17
526 - Undersea Warfare International	0	9	0	2	3
533 - Combat Systems Science & Engineering	72	34	51	48	160
570 - Naval/Mechanical Engineering	19	89	90	212	257
571 - Reactors - Mechanical /Electrical Engineering DL			2		
572 - Mechanical Engineering for Nuclear Trained Officers DL				1	
580 - Systems Engineering	0	3	6	12	33
581 - Systems Engineering PhD					5
590 - Electronic Systems Engineering	47	56	17	23	24
591 - Space Systems Engineering	31	42	19	28	33
592 - Electronic Systems Engineering DL			1	2	. 1
Certificate (Students)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
721 - Product Development for the 21st Century	4	18	5	19	24
273 - Space Systems Certificate Program	7	6	5	40	5
282 - Systems Engineering Certificate			2		
Sub Totals (students)	248	368	258	600	711
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012
ECE - Electrical & Computer Engineering	32				
MA - Applied Mathematics	64	45	46	31	21

Interlibrary Loan borrowing requests (materials from other libraries).

MAE - Mechanical & Aerospace Engineering	184	114	160	219	254
MR - Meteorology	8	11	2		1
OC - Oceanography	61	14	24	11	48
PH - Physics	22	54	186	122	322
SP - Space Systems			5	6	17
SE - Systems Engineering			52	50	33
USWAG - Undersea Warfare Academic Group				4	1
Sub Totals (faculty/staff)	371	252	488	453	703
GSEAS Grand Totals per FY	619	620	746	1053	1414
Total ILL for FY	4535	5415	6978	6111	6659
GSEAS % of ILL	14%	11%	11%	17%	21%



#### Course Reserves.



# Appendix C. Databases of interest to ABET related research programs currently offered by Dudley Knox Library.

#### Aerospace Database (ProQuest)

The Aerospace Database provides bibliographic coverage of basic and applied research in aeronautics, astronautics, and space sciences. The database also covers technology development and applications in complementary and supporting fields such as chemistry, geosciences, physics, communications, and electronics. In addition to periodic literature, the database also includes coverage of reports issued by NASA, other U.S. government agencies, international institutions, universities, and private firms.

# AIAA Aerospace Research Central (ARC) (American Institute of Aeronautics and Astronautics)

Full-text AIAA papers, journals, conference proceedings and eBooks in the fields of aviation and aerospace. Contains content formerly found in the AIAA Electronic Library, with more than four decades of technical information and documents.

#### ASM Alloy Phase Diagrams Center (ASM)

The ASM Alloy Phase Diagrams Center allows subscribers to explore, search and view more than 34,000 binary and ternary phase diagrams and associated phase data for more than 6200 systems from their Web browsers.

#### ASME Digital Library (American Society of Mechanical Engineers)

Founded in 1880 as the American Society of Mechanical Engineers, ASME is the premier professional membership organization for more than 127,000 mechanical engineers and associated members worldwide. ASME also conducts one of the world's largest technical publishing operations in the world, offering thousands of titles including some of the profession's most prestigious journals and conference proceedings.

#### Compendex (Engineering Village)

Compendex contains over seven million references and abstracts taken from over 5,000 engineering journals, conferences and technical reports. Online coverage is from 1969 to the present and includes nuclear technology, bioengineering, transportation, chemical and process engineering, light and optical technology, agricultural engineering and food technology, computers and data processing, applied physics, electronics and communications, control, civil, mechanical, materials, petroleum, aerospace and automotive engineering as well as narrower subtopics within all these and other major engineering fields.

#### DTIC Online (Defense Technical Information Center)

Citations to reports from DTIC, a clearinghouse for a variety of defense-related scientific and technical publications. Through the Public Technical Reports database, DTIC indexes and abstracts these reports, providing full-text to many reports.

#### <u>ebrary (ebrary)</u>

Access the full-text of over 43,000 books. Create a personal bookshelf and highlight and take notes in the books. Among other areas, coverage includes Computers & IT, Engineering & Technology, and the Physical Sciences.

### Engineering Village 2 (Engineering Village 2)

Engineering Village 2 offers access to Compendex, CRC ENGnetBASE (Engineering Handbooks Online), and records from the United States Patent and Trademark Office for information specialists, professionals, and researchers working in the applied science technical and engineering fields.

#### ENGnetBASE: Engineering Handbooks Online (EngnetBase)

ENGnetBASE provides online access to the full text of the CRC Press Engineering Handbook series. Subject areas include civil engineering, telecommunications, electronic engineering, materials science, chemical technology, computer science, avionics, manufacturing, signal processing, and mechanical engineering.

#### **IEEE/IET Electronic Library (IEEE Xplore)**

This database provides full-text access to over 12,000 publications produced by in conjunction with the Institute of Electrical and Electronics Engineers [IEEE] and the Institution of Engineering and Technology [IET]. Included in this database are journal articles, conference papers and technical standards. Coverage is from 1988 to present, with some content going back as far as 1913.

#### JSTOR

JSTOR is a full-text digital archive providing full-text access to many core scholarly journals. Coverage begins with the first volume of each title. However, due to publisher requirements, they maintain a moving 2 to 6 year lag in the most recent holdings.

#### Knovel (Knovel)

Knovel offers interactive access to the full-text content of over 800 engineering and scientific handbooks and databases, and the ability to manipulate and search across this entire collection. Knovel currently has 19 subject areas: Adhesives, Coatings, Sealants & Inks; Aerospace & Radar Technology; ASM International; Ceramics & Ceramic Engineering; Chemistry & Chemical Engineering; Civil Engineering & Construction Materials; Computer Hardware; Electrical & Power Engineering; Engineering Management & Leadership; Fire Protection; General Engineering References; Mechanics & Mechanical Engineering; Metals & Metallurgy; Oil & Gas Engineering; Plastics & Rubber; Process Design; Safety & Industrial Hygiene; Sustainable Energy.

#### **MathSciNet**

Provides citations and reviews from Mathematical Reviews (1940 to present) and current mathematical publications (1864 to present).

#### **Optics InfoBase (Optical Society of America)**

Journals of the Optical Society of America, including: Applied Optics, Applied Spectroscopy, Chinese Optics Letters, Journal of Display Technology, Journal of Optical Technology, Journal of the Optical Society of America B Online, Optics Letters, and more.

#### **Physical Review Online Archive (PROLA)**

PROLA contains the full-text of all American Physical Society journals published from 1893 to 1999 including all of Physical Review back to 1893, all of Physical Review Letters back to 1958, and all of Reviews of Modern Physics back to 1929.

#### Project Muse

Full-text access to over 100 university press journals including some in the areas of Science, Technology and Mathematics.

#### SIAM Journals Online (Society for Industrial and Applied Mathematics)

Contains the full text for SIAM Review, SIAM Journal on Applied Mathematics, SIAM Journal on Computing, SIAM Journal on Control and Optimization, SIAM Journal on Discrete Mathematics, SIAM Journal on Mathematical Analysis, SIAM Journal on Matrix Analysis and Applications, SIAM Journal on Numerical Analysis, SIAM Journal on Optimization, SIAM Journal on Scientific Computing from 1997 to present and all SIAM journals published from 1953 through 1996.

#### ScienceDirect (Elsevier)

ScienceDirect offers journal articles and book chapters from DKL-subscribed peerreviewed journals and eBooks.

<u>SPIE Digital Library (SPIE)</u> The SPIE Digital Library contains the full text of technical papers from SPIE journals and conference proceedings from 1990 to the present.

#### SpringerLink

SpringerLink is an integrated full-text database of journals and books published by Springer. Among other areas, the Library has access to books and journals in Earth & Environmental Sciences; Engineering; and Mathematics & Statistics.

#### Synthesis Digital Library of Engineering and Computer Science (Morgan & Claypool)

The basic component of the Digital Library is a 50- to 100-page "Lecture"; a selfcontained electronic book that synthesizes an important research or development topic, authored by an expert contributor to the field. They provide more synthesis, analysis, and depth than typical research journal articles. New lectures will be added continuously and existing lectures will be revised as needed.

#### Web of Knowledge

The website includes access to the Science Citation Index (1955-present) and Conference Proceedings Index (1991-present), through the Web of Science. Also included is Medline 1950-present, and Journal Citation Reports 2006-2011. It provides citation and tracking information on current and retrospective research and a current awareness tool. Cited references [footnotes and bibliographies] for all articles are captured and indexed, allowing tracing of the references and citation analysis. Includes access to some full-text articles.

#### Wilev Online Library

Wiley Online Library is a full-text resource for scholarly journals and other electronic resources for research in Engineering, Mathematics and Statistics, Physics and Astronomy, and Materials Science.

#### Appendix D. Sample handouts.

Selected Resources for Electrical and Computer Engineering *(separate attachment)* 

Selected Resources for Mechanical and Aeronautical Engineering *(separate attachment)* 

#### Appendix E. DKL staff bios.

#### Eleanor S. Uhlinger University Librarian

Ms. Eleanor Uhlinger is the chief administrative officer and Director of the Dudley Knox Library. Her responsibilities include providing vision and leadership for the Library and campus in accordance with and in support of the NPS mission and strategic plan. Ms. Uhlinger joined the NPS management team in 2006.

She is a recognized leader in marine science librarianship and specializes in issues of copyright and licenses as they pertain to academia. She is currently Chair of the Califa Library Group. She was named 2009 Federal Librarian of the Year by the Library of Congress and received the Department of the Navy Meritorious Civilian Service Award in 2011.

Ms. Uhlinger has a Master's Degree in Librarianship from the University of Washington, Seattle, and a Bachelor of Arts Degree in Environmental, Population, and Organismic Biology from the University of Colorado, Boulder. She has spent her career in academic scientific librarianship at: University of California, Bodega Marine Laboratory; University of Rhode Island, Graduate School of Oceanography; and the Marine Biological Laboratory / Woods Hole Oceanographic Institution.

#### Valerie Moulé Associate University Librarian

Valerie Moulé serves as the Associate University Librarian of the Dudley Knox Library (DKL). Her responsibilities include support for operations and logistics, including budget, assessment, human resources, training, facilities and administrative tasks. She manages the DKL Administrative Office. She represents DKL on committees including the Naval Support Activity, Monterey (NSAM) Customer Advisory Board, NSAM Quality of Life Board, Naval Postgraduate School (NPS) Command Managed Equal Opportunity team, and other ad hoc teams as required, such as Kuali Financial Systems (KFS) advisory teams.

Ms. Moulé has a Bachelor of Science degree in Clinical Science from San Francisco State University. She joined the Navy and was commissioned at Officer Candidate School in Newport, Rhode Island. Her Navy assignments ranged across different fields including intelligence, information technology, recruiting, base operations management and education and training. During her career she earned a Master of Science degree from Naval Postgraduate School and a Master of Arts degree at Naval War College. She received several awards while in the Navy, including two Meritorious Service Medals, and was awarded a Meritorious Civilian Service Medal while serving at DKL in 2012.

#### Greta Marlatt Outreach & Collection Development Manager; and Content Manager for the Homeland Security Digital Library

Ms. Greta Marlatt has over 30 years of experience working in academic and federal libraries in various capacities.

She has published several articles and is the author of a number of bibliographies and help guides for topics relating to Intelligence, Information Warfare, Special Operations, Homeland Security, Mine Warfare, Directed Energy Weapons, NBC Terrorism and more. She has given numerous presentations on topics related to conducting research in the homeland security and military arenas. She is currently a member of the *Homeland Security Affairs* journal Editorial Review Board.

Ms. Marlatt holds a Master of Library Science degree from the University of Arizona and a Master of Arts degree in National Security Studies from California State University, San Bernardino, and a Bachelor of Arts degree in English from Arizona State University. She is the recipient of numerous professional awards and received the 2012 I Love My Librarian award from the *New York Times* and Carnegie Foundation.

#### Ann Jacobson Reference & Instruction Manager

Ms. Ann Jacobson is the Manager of the Reference and Instruction Team and serves as the Library's subject liaison to the Graduate School of Business and Public Policy. She has held numerous positions in DKL since joining the staff in 1998.

She has been on the program planning and review committees or has been a moderator for or presenter at professional library conferences and most recently served as the editor of *Military Libraries*, the newsletter of the Military Libraries Division of the Special Libraries Association from 2010-2012.

Ms. Jacobson received her Master of Library and Information Science degree from San Jose State University in 1998.

#### Glen Koué Reference & Instruction Librarian

Mr. Glen Koué has responsibilities for providing research assistance and instruction to students and faculty. He is the Library subject liaison to the Systems Engineering, Applied Mathematics, and Computer Science departments. He works with faculty to provide subject specific instruction and assistance to students in these departments. He has been a librarian at the Dudley Knox Library since 1991 and joined the reference staff in 2000.

Mr. Koué has a Master's Degree in Library Science from San Jose State University, and a Bachelor of Arts Degree in Anthropology from the University of California, Berkeley. He received the Department of the Navy Meritorious Civilian Service Award in 2005.

#### Jeff Rothal Reference & Instruction Librarian

Mr. Jeff Rothal provides research assistance and instruction to students and faculty. He is the Library subject liaison to the Electrical and Computer Engineering, Mechanical and Aerospace Engineering, Meteorology, Oceanography, Physics, and Operations Research departments and the Space Systems Academic Group. He works with faculty to provide subject specific instruction and assistance to students in these departments. He has been a reference librarian at the Dudley Knox Library since 1997.

Mr. Rothal has a Master's Degree in Librarianship from University of Washington, Seattle, and a Bachelor of Arts degree in Human Ecology from College of the Atlantic. He has held several positions in academic, government, and private research libraries.

#### George Goncalves Restricted Resources & Services Librarian

Mr. George Goncalves manages that portion of the Library collection that has restrictions to its distribution to include the Library's classified collection. In addition, the Restricted Resources Librarian serves as a liaison between the Library and NPS at large for a variety of issues dealing with document life-cycle, document distribution, managing access to restricted collections and the creation of digital collections in general. He has worked for the Naval Postgraduate School and at the Dudley Knox Library since 1995 in a variety of roles: reference, systems librarian, restricted resources and on the Homeland Security Digital Library project.

Mr. Goncalves has a Master's Degree in Library and Information Science from the University of California, Los Angeles.

#### Irene Berry Digital Services Librarian

Ms. Irene Berry is project lead for Calhoun, the Naval Postgraduate School's Institutional Archive. She began her work in libraries with Special Collections and Archives for the University of California, and joined the Naval Postgraduate School in 2003 as a reference and instruction librarian, where she has served as subject liaison to the department of Systems Engineering and to NPS's International students.

In 2010, she headed a team project to create an Institutional Repository for NPS, successfully launching the public-access Calhoun in April, 2011. She is co-author of a comprehensive history of the death penalty in California, as well as a photographic history of Santa Cruz, California.

Ms. Berry earned her Master's Degree in Library and Information Science from San Jose State University in 2002 and a Bachelor of Arts degree in American Studies from the University of California, Santa Cruz.

#### Judit Sedillos Electronic Resources Coordinator

Ms. Sedillos oversees all aspect of electronic resources management for the Library's enterprise-licensed online scholarly content (databases, eBooks, and eJournals). Electronic Resource Management is in a rapidly evolving area concerning the full life-cycle management of subscription resources, to include acquisition, access, collection development, licensing and cataloging.

Ms. Sedillos joined NPS in 2003 as the Integrated Library System administrator and became the Library Systems Manager in 2005.

Ms. Sedillos earned an AS in Computer and Information Systems from Cabrillo College and a certificate from the Information Systems Technology online program at NPS. She holds teaching credentials as a German Language Instructor from her native Hungary. Prior to working at NPS, she provided technical support and testing for an educational software publisher and led a small library technical support team at the University of California, Santa Cruz.

#### Irma Fink Access Services Manager

Ms. Irma Fink joined the Dudley Knox Library (DKL) in 1999 and currently manages Access Services, which includes Circulation Services, Course Reserves, Interlibrary Loan/Document Delivery and Collection Management.

Prior to joining the DKL team, Ms. Fink worked in the administrative offices of the Monterey Bay Area Cooperative (MOBAC) Library System, a tri-county consortium of multi-type libraries – public, academic, and special – and is currently a member and incoming Chair of the MOBAC Interlibrary Loan committee. Special interests include researching and preparing historical exhibits and planning library space for which she received the Department of the Navy Meritorious Civilian Service Award in 2009.

#### Tom Doughty Metadata Services Manager

Mr. Tom Doughty is the supervisory librarian responsible for leading the day to day operations of the Metadata Services unit of the Dudley Knox Library. He provides a leadership role in envisioning and defining the workflow for application of metadata standards, cataloging, acquisitions and serials. Mr. Doughty serves on various cross departmental library committees and teams and joined DKL in 2011.

Mr. Doughty is a graduate of San Francisco State University, the California Institute of Integral Studies and San Jose State University. He has worked in cataloging and acquisitions departments at both public and academic libraries.

#### Stacy DeMatteo Library Systems Manager

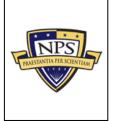
Ms. DeMatteo is the supervisory Librarian in charge of Systems and Technology for DKL. She manages a team of librarian and information professionals who manage enterprise library applications and servers; maintain staff and patron IT services; computer workstations and peripherals; and investigates and implements new technologies that benefit Library patrons. She joined NPS in 2011.

Ms. DeMatteo has a Master's degree in Library and Information Science from San Jose State University. She has provided guidance and leadership on a wide range of library technological issues at the Salinas Public Library, California State University Monterey Bay, and Rutgers University.

#### John Sanders Special Collections & Archives Manager

Mr. John Sanders is the archivist and historian for the Dudley Knox Library. His responsibilities include development of the Archives and research to fill in gaps in the historical records of the Naval Postgraduate School, historic Hotel Del Monte (now the NPS campus in Monterey), and Navy commands that utilized Hotel Del Monte prior to the arrival of NPS. He is responsible for acquisition, description, and preservation of unique manuscript collections that showcase intellectual achievements of Naval Postgraduate School faculty, alumni, students and staff.

Mr. Sanders has a Master of Science Degree in Geography and a Bachelor of Science Degree in Marine Science from the University of South Carolina. He has received the Department of the Navy Meritorious Civilian Service Award and NPS Employee of the Year Award. His career has included service in environmental agencies and contract work for the Department of the Navy and Department of State (Office of Foreign Disaster Assistance), University of South Carolina, University of North Carolina Sea Grant College, and in public affairs at NPS.



# **DUDLEY KNOX LIBRARY**

### http://www.nps.edu/Library Selected Resources for ECE



# Jeff Rothal, Reference & Instruction Librarian for ECE 831-656-2344 jrothal@nps.edu

Our goal is to make as many resources as possible available via your desktops. The following databases are accessible through the Library's home page (<u>http://www.nps.edu/Library</u>) by clicking on *Search Databases*. You may also get to the database list by going to or bookmarking <u>http://www.nps.edu/Library/Research%20Tools/ArticleDatabases/Databases.html</u>.

Some of our databases are *not* full-text. In cases where full-text access is required, please use the **Get III** button in order to see your options. You can also check BOSUN (<u>*http://bosun.nps.edu/*</u>), to see if we own the publication, or click on <u>*Find eJournals*</u> to see if we have electronic access.

If we do not own the publication or have electronic access, you may ask us to order it from another library via *Interlibrary Loan (ILL)*. ILL forms are available on the web at <u>http://nps.illiad.oclc.org/illiad/illiad.dll</u>. **Book purchase suggestions** may be submitted at <u>http://www.nps.edu/Library/forms/bookRequest.aspx</u>.

#### THE FOLLOWING DATABASES ARE ACCESSIBLE AT <a href="http://bit.ly/i8sxtD">http://bit.ly/i8sxtD</a> [click on "Engineering"]:

#### ACM DIGITAL LIBRARY (1947-present)

#### FULL TEXT

**FULL TEXT** 

Association for Computing Machinery articles from journals, magazines, and conference proceedings.

#### DTIC ONLINE

#### SELECTED FULL TEXT

Defense-related scientific and technical reports and theses from all of the U.S. military schools and agencies such as GAO, DoD IG, CNA, RAND, LMI and many others.

ENGINEERING VILLAGE: includes COMPENDEX, the most comprehensive interdisciplinary

engineering database in the world with nine million records referencing 5,000 engineering journals and conference materials dating from 1969.

#### *IEEE XPLORE* (1988-present, with some coverage back to 1893)

Provides access to almost a third of the world's current electrical engineering and computer science literature. Includes PDFs of over 1.4 million PDF documents from 12,000 publications from the Institute of Electrical and Electronics Engineers (IEEE) and the Institution of Electrical Engineers (IEE). Included are journal articles, conference papers and technical standards.

Also, please note that **IEEE**-*Wiley Electronic Books* can be accessed at <u>http://libproxy.nps.edu/login?url=http://ieeexplore.ieee.org/xpl/booksBySubjectCategory.jsp</u>

#### JANE'S ONLINE

Provides access to reports, articles and image files related to the world's armed forces and defense industry, geopolitical arena and various transportation systems.

#### KNOVEL

Access to over 800 engineering and scientific handbooks and databases, and the ability to manipulate and search across this entire collection. ECE-related subjects include electrical devices, engineering measurements & procedures, optical sensors & Microsystems, power generation & transmission, radar systems, semiconductor & thin film technology, superconductivity, and wireless/RF circuits.

#### PROQUEST

#### SUBSTANTIAL FULL TEXT

Includes: **AEROSPACE DATABASE** COMPUTER AND INFORMATION SYSTEMS ABSTRACTS PROQUEST COMPUTING PROQUEST RESEARCH LIBRARY PROQUEST SCIENCE JOURNALS PROQUEST TELECOMMUNICATIONS TELECOM

#### SPIE DIGITAL LIBRARY

The SPIE Digital Library contains the full text of technical papers from SPIE journals and conference proceedings from 1990 to the present.

#### SYNTHESIS DIGITAL LIBRARY OF ENGINEERING & COMPUTER SCIENCE FULL TEXT

The basic component of the library is a 50- to 100-page "Lecture"; a self-contained electronic book that synthesizes an important research or development topic, authored by an expert contributor to the field. They provide more synthesis, analysis, and depth than typical research journal articles. New lectures will be added continuously and existing lectures will be revised as needed.

#### TORPEDO Ultra

Access to the full text of selected journals published by Academic Press, Elsevier Science, Institute of Physics, and Naval Research Laboratory (NRL) Reports, NRL-authored journal articles and conference papers, and NRL Press Releases.

#### WEB OF SCIENCE (SCIENCE CITATION INDEX EXPANDED) (via WEB OF KNOWLEDGE) (1955-present)

Contains indexing, abstracts and cited references for approximately 5,900 titles of the world's leading science and technical journals. Weekly additions of 19,000 new records and over 400,000 new cited references. Contains some full text links.

#### WILEY ONLINE LIBRARY > ELECTRICAL & ELECTRONICS ENGINEERING

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updated April 2013

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Some of our databases are not 100% full-text. In cases where full-text access is required, please use the

**Get III** button in order to see your options. You can also check BOSUN (<u>http://bosun.nps.edu/</u>), our library catalog, to see if we own the publication in "hard copy," or click on *Find eJournals* <u>http://sfxhosted.exlibrisgroup.com/nps/az</u> to see if we have electronic access.

If we do not own the publication or have electronic access, you may ask us to order it via *Interlibrary Loan (ILL)*. ILL forms are available on the web at <u>http://nps.illiad.oclc.org/illiad/illiad.dll</u>. **Book purchase suggestions** may be submitted at

http://www.nps.edu/Library/dklforms/asp\_form/BookPurchaseReqForm.asp.

#### THE FOLLOWING DATABASES ARE ACCESSIBLE AT

http://www.nps.edu/Library/Research%20Tools/ArticleDatabases/Databases.html

*AIAA* (American Institute of Aeronautics & Astronautics) *ELECTRONIC LIBRARY* Journal & conference papers from 1963 to the present.

#### ASM ALLOY PHASE DIAGRAMS CENTER

Explore, search and view more than 34,000 binary and ternary phase diagrams and associated phase data for more than 6200 systems.

**ASME** (American Society of Mechanical Engineers) **DIGITAL LIBRARY** ASME's Transaction Journals (1970 to the present) and Conference Proceedings (2002 to the present).

#### CRCNETBASE

Engineering handbooks online.

#### DTIC ONLINE

#### SELECTED FULL TEXT

Defense-related scientific and technical reports and theses from all of the U.S. military schools and agencies such as GAO, DoD IG, CNA, RAND, LMI and many others.

**ENGINEERING VILLAGE:** includes **COMPENDEX**, the most comprehensive interdisciplinary engineering database in the world with nine million records referencing 5,000 engineering journals and conference materials dating from 1969, **NTIS** (the National Technical Information Service), and **U.S. patent searching**.

#### INGENTA

#### SELECTED FULL TEXT

Provides tables of contents, indexing, and electronic alert services for over 20,000 journals, many of which are in the sciences. Includes a few links to full-text.

#### JANE'S ONLINE

Provides access to reports, articles and image files related to the world's armed forces and defence industry, geopolitical arena and various transportation systems.

#### KNOVEL

Access to over 800 engineering and scientific handbooks and databases, and the ability to manipulate and search across this entire collection. ECE-related subjects include electrical devices, engineering measurements & procedures, optical sensors & Microsystems, power generation & transmission, radar systems, semiconductor & thin film technology, superconductivity, and wireless/RF circuits.

#### MECHANICAL ENGINEERING NETBASE

Over 375 e-books covering Aerospace Engineering, Combustion, Fluid Dynamics, Mechanics, Thermodynamics, Vibrations...

#### PROQUEST

Aerospace Database	(1962-present)
ProQuest Research	(1971-present)
ProQuest Science	(1986-present)

#### TORPEDO ULTRA

Access to the full text of selected journals published by Academic Press, Elsevier Science, Institute of Physics, and Naval Research Laboratory (NRL) Reports, NRL-authored journal articles and conference papers, and Press Releases.

#### WEB OF KNOWLEDGE

#### WEB OF SCIENCE

#### SCIENCE CITATION INDEX EXPANDED (1955-present)

CONFERENCE PROCEEDINGS CITATION INDEX (1991-present)

Provides citation and tracking information on current and retrospective research and a current awareness tool. Cited references [footnotes and bibliographies] for all articles are captured and indexed, allowing tracing of the references and citation analysis.

#### JOURNAL CITATION REPORTS

Journal performance metrics, including impact factor, which offer a systematic, objective means to critically evaluate the world's leading journals

#### WILEY ONLINE LIBRARY

Includes many of the leading journals in Materials Science, Mechanical Engineering, Nanotechnology, Polymer Science & Technology...

And check out our **Subject Guides** for tips on *Citation Styles*, *Cool Tools*, *Copyright Resources*, and *Avoiding Plagiarism* at http://www.nps.edu/Library/Research%20Tools/Subject%20Guides%20by%20Topic/index.html.

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