

ENGINEERING
William Mischo; February 1985
Revised: March 1987

I. DESCRIPTION

A. Purpose: To support the undergraduate through Ph.D. instructional and research programs of the College of Engineering. The Engineering Library serves the departments of Aeronautical and Astronautical Engineering, Agricultural Engineering, Ceramic Engineering, Civil Engineering, Computer Science, Electrical and Computer Engineering, General Engineering, Mechanical and Industrial Engineering, Materials Science, Nuclear Engineering, Theoretical and Applied Mechanics and the allied Coordinated Science Laboratory, Materials Research Laboratory, Bioengineering Program, National Center for Supercomputing Applications, Center for Supercomputing Research and Development, National Center for Composite Materials Research, and numerous other engineering laboratories.

B. History of the Collection: The Engineering Library was established in 1916 with an initial collection of 2,000 books and 50 periodical titles, and was housed, along with a small reading room, on the first floor of Engineering Hall. In 1931, a lecture room on the second floor of Engineering Hall was converted into an area for book stacks and study carrels and an inside stairway was built to connect the two floors. By 1954, the Library had grown to 75,000 volumes (including several thousand stored in the Bookstacks) and 700 periodical titles. The Engineering Library expanded again in 1969 when classrooms on the third floor of Engineering Hall were converted into a reading room and a stairway was built to connect with the second floor. The main entrance of the Library was shifted to the second floor along with circulation, reference, and reserve book services. Additional space for engineering materials was made available in the Altgeld Hall library stacks in the 1970's.

C. Estimate of Holdings: 300,000 volumes.

D. State, Regional, and National Importance: The Engineering Library is part of the nationally recognized UIUC physical sciences and applied sciences collection.

E. Unit Responsible for Collecting: Engineering Library.

F. Location of Materials: 100,000 volumes are located in the Engineering Library, 130,000 in the Bookstacks, and 70,000 volumes are located in the Engineering and Physical Sciences storage area in Altgeld Hall.

G. Citations of Works Describing the Collection:

Downs, pp. 63-64, 248, 425.

Major, pp. 9, 26, 38, 44, 49, 52.

II. GENERAL COLLECTION GUIDELINES

A. Languages: Predominantly English, with Russian, Japanese, French, Spanish, and German of secondary importance. English translations are preferred to original foreign language works.

B. Chronological Guidelines: Emphasis is on current developments. There is minimal interest in the history of engineering and technology.

C. Geographical Guidelines: No restrictions.

D. Treatment of Subject: Standard statement. Engineering is a field with both theoretical and applied aspects, and is highly interdisciplinary, particularly in the physical sciences. The primary focus is on research literature appearing in scientific journals and conference proceedings, and monographs summarizing research on or emphasizing applied mathematical techniques and computer methods. Because of the nature of the field, there are numerous collecting overlaps with other libraries as indicated in section III.

E. Types of Materials: Standard statement. Technical reports and standards/specifications are acquired, as are important trade publications in areas of university and private sector cooperation.

F. Date of Publication: Standard statement. Minimal retrospective purchasing.

G. Place of Publication: No restrictions. The United States is the most important area; second are Great Britain, Japan and the USSR; and of tertiary importance are Germany, France, Spain, and Latin America.

III. COLLECTION RESPONSIBILITY BY SUBJECT SUBDIVISIONS WITH QUALIFICATIONS, LEVELS OF COLLECTING INTENSITY, AND ASSIGNMENTS

<u>SUBJECTS</u>	<u>ES</u>	<u>CL</u>	<u>DL</u>	<u>ASSIGNMENTS</u>
Acoustics, applied	3	3	3	ENGINEERING/ physics
Aeronautical engineering	3	4	4	ENGINEERING
Aeronomy	2	3	3	ENGINEERING/ MAP/geology/ chemistry
Agricultural engineering	3	3	3	AGRICULTURE/ engineering
Artificial intelligence	2	4	4	ENGINEERING/ mathematics/ education/law
Astronautics	3	3	3	ENGINEERING/ mathematics
Atmospheric physics	3	3	3	ENGINEERING/ MAP/physics/ chemistry
Audio engineering	3	3	3	ENGINEERING/ communications
Automotive engineering	3	3	3	ENGINEERING

<u>SUBJECTS</u>	<u>ES</u>	<u>CL</u>	<u>DL</u>	<u>ASSIGNMENTS</u>
Bioacoustics	3	3	3	ENGINEERING/ physics/ biology
Bioengineering	3	3	4	ENGINEERING/ biology
Broadcast engineering	3	3	3	ENGINEERING/ communications
CAD/CAM (computer-aided design/ computer-aided manufacturing)	3	4	4	ENGINEERING/ commerce
Ceramic engineering	3	3	4	ENGINEERING/ chemistry
Circuit theory	3	4	4	ENGINEERING
Civil engineering	3	4	4	ENGINEERING
Coal research	3	2	3	CHEMISTRY/ engineering
Combustion	3	3	3	ENGINEERING/ chemistry
Communication systems (networks, theory, satellites, transmission systems, signal theory and processing)	3	4	4	ENGINEERING/ communications
Composite materials	3	3	3	ENGINEERING/ chemistry
Computer engineering	3	4	4	ENGINEERING
Computer science	2	3	4	ENGINEERING/ library science/ commerce
Concrete and cement	4	4	4	ENGINEERING/ chemistry
Construction engineering	3	3	3	ENGINEERING/ architecture
Control and instrumentation systems	3	3	3	ENGINEERING/ physics
Corrosion	3	3	3	ENGINEERING/ chemistry
Cryogenics	3	3	3	PHYSICS/ engineering/ chemistry
Crystallography	3	3	3	PHYSICS/ engineering
Cybernetics--see Systems engineering				
Data processing	3	3	4	COMMERCE/ engineering/ library science
Earthquake engineering	3	3	3	ENGINEERING/ geology
Electrical engineering	3	3	4	ENGINEERING
Electrochemistry	3	3	3	CHEMISTRY/ engineering
Electrohydrodynamics	3	3	3	PHYSICS/ engineering

<u>SUBJECTS</u>	<u>ES</u>	<u>CL</u>	<u>DL</u>	<u>ASSIGNMENTS</u>
Electromagnetics	3	3	3	ENGINEERING/ physics
Electronics	3	3	4	ENGINEERING
Energy systems	3	3	3	ENGINEERING/ chemistry/ city planning/ commerce
Engineering design	3	2	3	ENGINEERING
Engineering economics	3	3	3	ENGINEERING/ commerce
Engineering education	2	2	2	ENGINEERING/ education
Engineering geology	3	3	4	ENGINEERING/ geology
Environmental engineering	3	3	3	ENGINEERING/ chemistry/ city planning
Ergonomics	2	3	3	ENGINEERING/ commerce
Fire science	3	3	3	ENGINEERING/ chemistry
Flow systems	3	3	4	ENGINEERING/ physics/ chemistry
Fluid mechanics	3	3	3	ENGINEERING/ physics
Foundation engineering	3	3	3	ENGINEERING/ geology/ architecture
Fuel science	3	3	3	ENGINEERING/ chemistry
Gaseous electronics	3	3	3	ENGINEERING/ physics
Geophysics	3	3	3	ENGINEERING/ geology/map
Geotechnical engineering	3	3	3	ENGINEERING/ geology
Glass science	3	3	3	CHEMISTRY/ engineering
Heat transfer	3	4	4	ENGINEERING/ chemistry
History of engineering	2	2	2	ENGINEERING/ history of science
Human factors engineering	2	3	3	ENGINEERING/ commerce/ education
Hydrology	3	3	3	ENGINEERING/ geology
Illumination engineering	2	3	3	ENGINEERING/ architecture

<u>SUBJECTS</u>	<u>ES</u>	<u>CL</u>	<u>DL</u>	<u>ASSIGNMENTS</u>
Image processing	2	3	3	ENGINEERING/ education/map/ physics
Industrial engineering	3	3	4	ENGINEERING/ commerce
Information theory	3	3	3	LIBRARY SCIENCE /engineering /mathematics
Lasers	3	3	3	PHYSICS/ engineering/ chemistry
Lubrication engineering	3	3	3	ENGINEERING
Magneto hydrodynamics	3	3	3	PHYSICS/ engineering
Manufacturing engineering	3	3	4	ENGINEERING/ commerce
Marine engineering	2	2	3	ENGINEERING/ biology
Mass transfer	3	3	3	ENGINEERING/ chemistry
Materials science	3	3	4	ENGINEERING/ chemistry/ physics
Mathematics, applied	3	3	3	ENGINEERING/ physics/ mathematics
Mechanical engineering	3	4	4	ENGINEERING
Mechanics (theoretical and applied)	3	3	4	ENGINEERING/ physics/ mathematics
Metallurgical engineering	3	3	4	ENGINEERING
Microcomputers	2	3	3	ENGINEERING/ commerce/ library science
Microscopy, electron	3	3	4	BIOLOGY/ engineering/ physics
Mining engineering	3	2	2	ENGINEERING
Nuclear fission and fusion	3	3	3	PHYSICS/ engineering
Ocean engineering	3	2	3	ENGINEERING/ biology
Operations research	3	3	4	ENGINEERING/ commerce/ mathematics
Optics, applied	3	3	3	PHYSICS/ engineering/ chemistry
Pattern recognition	3	3	3	ENGINEERING/ map/education
Petroleum engineering	2	2	2	ENGINEERING/ chemistry

<u>SUBJECTS</u>	<u>ES</u>	<u>CL</u>	<u>DL</u>	<u>ASSIGNMENTS</u>
Photogrammetry	3	3	3	ENGINEERING/map
Photo-optical engineering	3	3	4	ENGINEERING
Physics of solids	3	2	3	PHYSICS/ engineering
Plastics engineering	2	3	3	CHEMISTRY/ engineering
Polymer engineering	3	3	3	ENGINEERING/ chemistry
Power engineering	3	3	4	ENGINEERING
Production engineering	2	3	3	ENGINEERING/ commerce
Quantum electronics	3	3	3	ENGINEERING/ physics
Railway engineering	3	2	2	ENGINEERING/ commerce
Robotics	2	4	4	ENGINEERING/ commerce
Rock mechanics	3	3	4	ENGINEERING/ geology
Safety engineering	3	2	3	ENGINEERING/law
Sanitary engineering	3	3	4	ENGINEERING/ chemistry
Semiconductors	3	4	4	ENGINEERING/ physics
Signal processing	3	3	3	ENGINEERING/map /education
Software engineering	2	3	4	ENGINEERING/ commerce
Soil mechanics	3	3	4	ENGINEERING/ architecture/ geology
Solar energy	3	3	3	ENGINEERING/ physics
Solid state devices	3	4	4	ENGINEERING/ physics
Spectroscopy	3	3	3	CHEMISTRY/ engineering/ physics
Standards/specifications	2	2	3	ENGINEERING
Structural dynamics and mechanics	3	3	4	ENGINEERING/ chemistry/ architecture
Surface science	3	2	3	PHYSICS/ engineering/ chemistry
Systems engineering	2	3	3	ENGINEERING/ commerce
Thermal systems	3	3	3	CHEMISTRY/ engineering/ physics
Thin film physics	3	3	3	ENGINEERING/ physics

<u>SUBJECTS</u>	<u>ES</u>	<u>CL</u>	<u>DL</u>	<u>ASSIGNMENTS</u>
Transportation engineering	3	3	3	ENGINEERING/ architecture/ city planning/ commerce
Tribology	3	3	3	ENGINEERING/ chemistry
Water resources	3	3	3	ENGINEERING/ chemistry/ geology
Welding	3	3	4	ENGINEERING