

Engineering and Engineering Technology Collection Development Policy

1981, revised: August 1989; October 1995; August 2000

I. Academic Programs Served

A. Departments

The collection supports present and anticipated teaching and research for the departments of electrical, industrial, mechanical engineering and the department of technology. Other academic units making use of the collection are physics, computer science, mathematical sciences, management, geology and chemistry.

B. Degrees Offered in the subject area:

1. The College offers a B.S. degree in Electrical, Industrial, and Mechanical Engineering and a B.S. degree in Technology. The Technology degree has two emphasis: Engineering Technology and Industrial Technology. The Engineering Technology degree has three possible orientations: Electrical Engineering, Manufacturing Engineering, and Nuclear Engineering Technology. The Industrial Technology degree has several possible orientations: Computer-Aided Design, Manufacturing Technology, Occupational Safety, Plastics Technology, and Special Technical Study.

2. A minor is offered in Technology with emphasis in Electrical Engineering, Manufacturing Engineering, Productivity, Safety and Driver Education, and in Safety.

3. The College offers an M. S. degree in electrical, industrial, and mechanical engineering; and an M. S. degree in Industrial Management.

C. New Programs: An interdisciplinary Ph. D. degree program in Systems Engineering is in the planning stage.

II. Clientele Served

The College of Engineering and Engineering Technology is the principal unit served by the Libraries' collections. Undergraduate and graduate students and the faculty of the college are the primary users. Courses offered by the engineering departments may be of interest to students from the applied sciences. Courses and minors offered by the Department of Technology may be of interest to education and art majors.

III. General Collection Policy Considerations

A. Languages.

English is the primary language of the collection. Japanese, German and Russian language materials will be obtained on a very selective basis when English translations are not available. Materials in other languages or their translations will be collected on a highly selective basis.

B. Chronological emphasis.

The primary emphasis is on collecting publications relating to current engineering research, design and product development, including theoretical and applied aspects. Materials dealing with current technological advances and their use in product development such as equipment, automation and computer uses in industry are collected. The managerial, social and ethical aspects as well as the safety and educational aspects of engineering in the modern 20th century are also covered. Publications dealing with the history of technology will be collected on a highly selective basis.

C. Geographical limitations.

The collection is drawn mainly from United States and United Kingdom publication sources. Other geographical areas are treated selectively.

D. Formats of materials collected.

Serials and periodical publications, reference sources, indexes and abstracts, and monographs will constitute the main part of the collection. Special attention will be given to engineering societies publications. Technical reports and engineering standards as well as films and diskettes will be collected on a selective basis. Electronic formats of these collections will be considered when they are available.

E. Publication dates.

Emphasis of materials collected will be on current publications and materials copyrighted within the last ten years. Older publications may be purchased in original format, electronic, in reprint editions or in microform, depending upon availability and cost.

F. Special Considerations.

None.

IV. Collecting Levels

B. Special Observations

- Notations:
- CL = Current Collection
- AC = Acquisition Commitment
- GL = Collection Goal
- PC = Preservation Commitment

- Subject: Engineering graphics, management and safety
LC Classes: T11.8, T14-23, T54-150, T351-385
CL: 4
AC: 4
GL: 4
PC: 2

- Subject: Human factors, mechanical tech., materials and optics
LC Classes: TA 165-210, TA 349-368, TA 404-424.9, TA 455.P, TA 1505-1770, TA 1632,
CL: 4
AC: 4
GL: 4
PC: 2

- Subject: Mechanical design
LC Classes: TJ 177-241, TJ 1125- 1345
CL: 4
AC: 4
GL: 4
PC: 2
- Subject: Electrical/electronic tech.
LC Classes: TK 454.2, TK 5101-5104.9, TK 7815-7888.4, TK 7895, M 5
CL: 4
AC: 4
GL: 4
PC: 2
- Subject: Production engineering
LC Classes: TS155 -875
CL: 4
AC: 4
GL: 4
PC: 2
- Subject: Industrial safety and health
LC Classes: TH 153-4311, TH 7005-7699, TH 9445, TL 152, RA 1229, RC 962-965
CL: 4
AC: 4
GL: 4
PC: 2
- Subject: Industrial management
LC Classes: HA 31, HD 62.2, HD 66, HD 3656-3790.9, HD 5715-5715.5, HD 7260.6-7266, HE 5613-5620, HF 5549-5549.5, HF 5734.5, HM 221, HV 675-677, TA 1632
CL: 4
AC: 4
GL: 4
PC: 2
- Subject: Mathematics and physics
LC Classes: Q 175.35-135.37, QA 268.5, QA 402.3, QC 81-114, QC 319.8-338.5, QC 518-523, QC 630-648, QC 660-667, QC676-678
CL: 4
AC: 4
GL: 4
PC: 2

D. Special Observations

V. Other Resources

NIU Libraries collections related to physics, mathematics, geology and chemistry. Federal and state documents from the Government Publications collection. Area corporate libraries and the Chicago

Public Library are good sources for patents and engineering standards publications. Fermilab and Argonne libraries and the Illinois State Libraries provide us with technical reports and more specialized materials. The on-line catalog allows us to search the collections of several corporate and academic institutions in the state.

VI. Special Remarks

Major areas of teaching and research are:

Electrical Engineering: control theory, robotics, signal processing, image processing, computer architecture, VLSI, communications, microwaves, microprocessors, antenna theory, electromagnetics theory, fuzzy logic and neural network controls, optics, robotics and control, acoustic noise, electronic device fabrication, electronic materials, computer-aided circuit analysis and design, digital audio processing, dsp applications, semiconductor devices, and speech signal processing.

Industrial Engineering: computer integrated manufacturing, manufacturing systems engineering, facilities planning and design, quality control, computer simulation, computer and microcomputer applications, methods engineering and work measurement, human factors engineering, engineering economy, operations research, production planning and inventory control, expert systems in engineering, CAD/CAM, engineering and society, expert systems, industrial and manufacturing management, machine vision, and reversed engineering.

Mechanical Engineering: dynamic systems and control, noise and vibrations, CAD/CAM, materials and manufacturing processes, heat transfer, fluid mechanics, robotics, air conditioning and refrigeration, thermal systems, solar engineering, structural analysis, seismic analysis, experimental methods in engineering, instrumentation and control, finite element methods, computational or numerical methods in engineering, concurrent engineering, dynamics and vibrations, integrated design and manufacturing, materials engineering, micro-electro-mechanical systems, smart materials, solid mechanics and vibrations, and stress analysis.

Engineering Technology: industrial and manufacturing management, drawing, industrial safety, graphic arts, plastics, electronic/electrical technology, metals technology, mechanical engineering technology, controls, wood technology, industrial education, quality control and industrial computer programming.