**Electrical and Computer Engineering**

**Collection Development Policy Statement**

I. This policy covers the Electrical Engineering Department within the Ira A. Fulton College of Engineering and Technology. The Harold B. Lee Library supports the curricular and research needs of the department through monographic purchases and periodical and database subscriptions.

II. Curriculum and Research

A) Curriculum

Electrical Engineering students approach complex problems from a background including a wide distribution of selective emphasis in electrical design, electronics, computer engineering and design, software programming, statistics and mathematics. The abilities they develop at BYU include problem solving through comparative analysis, mathematical and computational modeling, and experimental discovery and analysis. All students gain professional experience in a research or internship project, usually in close association with faculty. Together these experiences provide excellent preparation for employment or for graduate studies in analog circuits, biomedical imaging and devices, communication, computer architecture, configurable computing, micro air vehicles, microfabricated devices, optics, radio astronomy, remote sensing, robotics, signal processing, and telemetry. The department aims to produce creative, skilled problem solvers who are technically sound researchers that are able to innovate and move ideas into viable products and processes. The department offers a BS in Electrical Engineering, a BS in Computer Engineering, a MS in Electrical and Computer Engineering, and a PhD in Electrical and Computer Engineering. There are 24 full-time, 5 adjunct and 2 Emeritus faculty in the department.

B) Research

The department sponsors research groups and labs in the following areas:

Analog Circuits, Biomedical Imaging, CERS (Center for Remote Sensing), Clean Room (Integrated Microfabrication Lab), Computer Architecture, Configurable Computing Lab, CSAS (Smart Antenna Systems lab), Differential Forms in Electromagnetic Theory, Electro-Holography, Electromagnetic Measurement Group, Immerse (student paper and presentation support group), MAGICC, MERS, Photonics, Radio Astronomy, Robotic Vision, Scatterometer Climate Record Pathfinder, and Telemetry.

III. Subject and Formats

A) Scope

The library collects electrical engineering monographs and periodicals on theory and practice at a level 4 (research) to support the faculty and graduate students and common texts on a level 2 (selective) to support demand. Other subject areas are also collected on a level 3 (curricular).

B) Type

Original research, abstracts, reference works are collected extensively. Compendex, the search engine representing the collective indexing work of the Engineering Index® is the preferred index for periodical literature, however a number of other databases provide excellent entries into the literature including IEEEXplore, ProQuest Research Library: Science and Technology, ACM Digital Library, Computers and Applied Sciences Complete (EBSCO) and Audio Engineering Society Electronic Library. Popular treatments, textbooks, and course materials are collected selectively. Other types are generally not collected.

C) Format

Monographs, serials in electronic form are collected preferentially. Audiovisual materials are collected selectively. Microforms and manuscripts are generally not collected.

D) Materials published during the last 10 years are collected extensively. Materials published during the previous 20-30 years are collected very selectively. Materials published prior to 1950 are generally not collected.

E) English is the preferred language and is collected extensively. Other languages are generally excluded or collected very selectively based on unique content that has not been translated into English

F) Geographic Focus

No particular area of the World is favored however most materials come from North America and Europe

IV. Other

A) Related Collections and Overlap

There is overlap in other areas such as computer science, but only as electrical and computer engineering is applied to those areas. Theory is separate and is generally found only in the engineering literature. Collection policy concerning computer hardware, QA75.5-76.95, is left to the collection development policy for Physical and Mathematical Sciences.

B) Cooperative resources and programs

Various consortia arrangements on a library wide scale have been entered into to ensure full text availability of periodicals and access to normally very expensive collections such as IEEEXplore (IEL), IEEE standards, and the NESC Handbook online.

V. Classed Analysis

**Electrical and Computer Engineering**

**Classed Analysis**

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| **LC Classification** | **Subject** | **Collecting Level** |
| TK | Electrical engineering. Electronics. Nuclear engineering. |  |
| TK301-399 | Electric meters | Teaching |
| TK452-454.4 | Electric apparatus and materials. Electric circuits. Electric networks | Research |
| TK1001-1841 | Production of electric energy or power. Powerplants. Central stations | Research |
| TK2000-2891 | Dynamoelectric machinery and auxiliaries (Including generators, motors, transformers) | Research |
| TK2896-2985 | Production of electricity by direct energy conversion | Research |
| TK3001-3521 | Distribution or transmission of electric power | Research |
| TK4001-4102 | Applications of electric power | Research |
| TK4125-4399 | Electric lighting | Research |
| TK4601-4661 | Electric heating | Research |
| TK5101-6720 | Telecommunication (Including telegraphy, telephone, radio, radar, television) | Research |
| TK7885-7895 | Computer engineering. Computer hardware | Research |
| TK8300-8360 | Photoelectronic devices (General) | Research |
| TK9001-9401 | Nuclear engineering. Atomic power | Research |
| TK9900-9971 | Electricity for amateurs. Amateur constructors' manuals | Representative |
| QA75.5-76.95 | Electronic computers. | Rely on Physical Sciences collection policy |