Collection Development Policy, Electrical Engineering and Computer Science

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Collection Development Statement

Department: Electrical Engineering and Computer Science
Drafted by: Ven Basco
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Collection Purpose

To support teaching and research at both the graduate and undergraduate levels as well as faculty research the library selects and maintains materials in electrical & computer engineering and computer science. The Department of Electrical Engineering and Computer Science is part of the College of Engineering and Computer Science. Degrees offered which the library supports include:

GRADUATE PROGRAMS

Electrical Engineering, Ph.D., M.S.

The Electrical Engineering (EE) Ph.D. program prepares students for careers in research or academia with specializations including Communications, Digital Signal Processing/Image Processing, Controls and Robotics, Electromagnetics, Electro-Optics, Photonics, Power Electronics and Electronics, Solid-State/Microelectronics, and VLSI Design.

The Master of Science in Electrical Engineering students receive a broad background in areas such as Electromagnetics and Optics (EO), Signal Processing and Systems (SPS), and Micro-Systems and Nano-Systems (MNS).

Computer Engineering, Ph.D., M.S.

The Computer Engineering (CpE) Ph.D. program prepares students for careers in research or academia with specializations including computer systems and reconfigurable devices, sensor networks, software engineering, intelligent systems and Machine Learning, and computer networks.

The Computer Engineering MSCpE degree offers programs in a number of technical (research) areas, such as Computer Networks and Computer Security (CNCS), Computer Systems and VLSI Design (CS/VLSI), Intelligent Systems and Machine Learning (ISML), and Software Systems and Algorithms (SSA).

Computer Science, Ph.D., M.S.

The objectives of the UCF doctoral program in computer science are to provide professionals trained at the highest possible academic level in theory and practice, with proven abilities for innovative research and instruction in computer science and to produce individuals with an expertise suitable for positions in industry, academia and government. It is also to provide a service to those individuals desiring to expand their knowledge beyond the Master's level in an attempt to stay abreast of recent advances and technology in computer science, but not necessarily seeking a doctoral degree.

Students successfully completing this program will have exhibited breadth as well as depth of capability involving both theoretical aspects of computer science and practical considerations of computing. The program demands breadth of knowledge in fundamentals of computer science, depth in an area of specialty in the discipline, and the creativity necessary to produce a dissertation advancing this body of knowledge.

The Master of Science in Computer Science program produces graduates with a high level of competency in understanding, applying, and enunciating the modern concepts, principles, methods, and theories necessary for the design and implementation of computing systems.

Digital Forensics, M.S.

The mission of the Master of Science in Digital Forensics (MSDF) degree program is to provide a quality graduate education in the science and practices of digital forensics, and to prepare the students for digital forensics jobs and a lifetime of learning. The MSDF degree is a collaborative effort between various UCF academic departments - Electrical Engineering and Computer Science, Forensic Science of Chemistry, Criminal Justice and Legal Studies - and the National Center for Forensic Science.

UNDERGRADUATE PROGRAMS

Electrical Engineering, B.S.

The mission of the Electrical Engineering Program is to develop and disseminate the theory and methods for the design, analysis, and implementation of the principles and practices in Electrical Engineering.

Computer Engineering, B.S.

The mission of the UCF Computer Engineering Program is to develop and disseminate the theory and methods for the design, analysis, implementation, and improvement of computer hardware, software, and systems.

Computer Science, B.S.

The mission of the Computer Science program is to educate majors in the principles and practices of computer science, preparing them for graduate school, for careers in software development and computing systems technology, and a lifetime of learning.

Information Technology, B.S

The Information technology program focuses on preparing graduates who are concerned with issues related to advocating for users and meeting their needs within an organizational and social context through the selection, creation, application, integration and administration of computing technologies

Collection Description

The collections of the Department of Electrical and Computer Engineering support the research and teaching interests of the faculty and students in both the graduate and undergraduate programs in electrical engineering, computer engineering and computer science.   General works are collected at the introductory level.   Popular treatment is acquired selectively.   Juvenile materials are excluded.

Relevant Indexes include:

ABI/Inform

ACM Digital Library

AIAA Aerospace Research Center Journals

AIP (American Institute of Physics)

Applied Science and Technology Abstracts

ASTM Compass

Business Source Premier

Computer Database

Computer and Information Systems Abstracts

Computer Database

Computing Research Repository (CoRR) at http://arxiv.org/archive/cs/intro.html

Electronics and Communication Abstracts

Encyclopedia of Electrical and Electronic Engineering

Engineering Index

ENR: Engineering News-Record

IEEE Explore

INSPEC

Internet and Personal Computing Abstracts

ISI Web of Science (Science Citation)

MathSciNet

NTIS at http://www.ntis.gov/

ProQuest Computer Science Journals

ProQuest Deep Indexing: Computer Science

Solid State and Superconductivity Abstracts

SPIE (International Society for Optical Engineering)

Collection Guidelines

Chronology: Emphasis/restrictions

Currency is extremely important in electrical engineering, computer engineering and computer science fields. Emphasis is on the last three years although journal holdings are maintained indefinitely. Historical material is collected very selectively except in the areas of the history and mathematical foundations of all three fields.

Languages: Emphasis/restrictions

Materials are primarily collected in English. Monographs are exclusively in English. Major foreign journals may be acquired, but the English translation is preferred when it is available.

Geography: Emphasis/restrictions

Geographical limits do not apply. However most of the collection has United States imprints.

Subject treatment

Curriculum areas of emphasis include:

- Algorithms
- Artificial intelligence
- Computer Architecture
- Computational biotechnology
- Computational complexity and theory of computation
- Computer architecture
- Computer communications
- Computer graphics
- Computer security and ethics
- Computer software
- Computer vision
- Database management
- Digital Circuits
- Digital networks and systems
- Dynamics
- Electrical networks
- Electromagnetic fields
- Electronic digital computers
- Engineering analysis
- Engineering concepts
- Engineering data structures
- Engineering software design
- High-performance computing
- Human-computer interaction
- Information retrieval
- Information technology
- Knowledge-based systems
- Linear control systems
- Natural language processing

- Object-oriented systems
- Operating systems
- Parallel processing
- Programming
- Programming languages and compilers
- Robotics
- Scientific computation & simulation
- Semiconductor devices
- Signal analysis
- Software engineering
- Statics
- VLSI design tools

Research interests include:

- Analog electronics
- Artificial intelligence
- Communications
- Computer architecture
- Computer networking and ubiquitous computing
- Computer vision
- Controls
- Digital signal processing
- Digital systems
- Electromagnetics
- Electro-optics
- Expert systems
- Intelligent systems
- Large scale integration (VLSI) systems
- Modeling and simulation
- Physical electronics

Material formats: Emphasis/restrictions

The Library collects journals, monographic series, monographs, and reference works in print and electronic formats. Dissertations and theses from the University of Central Florida are collected; those from other schools are ordered very sparingly.

Ephemera, pamphlets, preprints, off-prints, technical reports, newsletters, manuscripts, juvenile materials, problem sets are usually excluded.

Textbooks are generally excluded unless they are standard works or considered classics.

Publication dates

Emphasis is on current materials; within the last ten years with most emphasis on the last three years.

Subjects collected and Collecting levels

Key: 0= Libraries do not collect; 1= Minimal level; 2=Basic information level; 3=Instructional support level; 4=Research level; 5=Comprehensive

Subject	Range	Existing Level	Desired Level
Cybernetics	Q 300-385	4	5
Computer Science	QA75-76	4	5
Algebra	QA150-272	3	3
Mathematics, Numerical Analysis	QA 281-299	4	4
Mathematical Analysis	QA300-433	3	3
Technology	T (T385)	3	3
Engineering	TA (TA 1630-1650)	3	4
Environmental technology	TD (TD7895, memory systems, microprocessors, optical equipment)	3	3
Electrical engineering Electronics	TK (5102, 5105, 7882-7895, Computer Engineering)	4	5

Subjects excluded

Biography is selectively acquired. Software is generally excluded. Standards are collected very selectively.

Cooperative arrangements and related collections

Other areas of the university that are impacted by the electrical and computer engineering program and computer science program holdings and/or which relate strongly to electrical and computer engineering and computer science include:

Mathematics would offer resources for the mathematics of engineering.

Management and economics would share resources for the management of engineering systems, and the economics of design research and the electrical and computer industries.

Physics also relates to electrical engineering as well.

Linguistics is consulted when working with computational linguistics.

The library is a member of the Patent and Trademark Depository program and makes patent information available for use by the computer science faculty and students also.

Collection management issues:

Replacement

Any book lost or stolen, which appears on the Missing titles sheets distributed by the Circulation Department to the library liaison, will be considered for replacement. The title may be ordered directly from the Collection Development replacement budget fund at the discretion of the Head of Acquisitions and the Collection Development Librarian for Electrical Engineering and Computer Science if the title is essential to the collection. Outdated or superseded editions will not be reordered unless there is a specific need.

Retention/Deselection

The decision to dispose of certain items takes into account such factors as past circulation, date of publication, nature of the material, and the judgment of interested faculty members as to the continued usefulness of the material to their subject areas.

Outdated, unused and no longer reliable materials are removed from the collection.

Deteriorated materials can be repaired, replaced or discarded.

Periodicals or electronic resources will be weeded when:

- The library has only fragments of a title, which do not justify the cost of filling out the run with an alternative format.
- A title has not been subscribed to for more than ten years and its value is not apparent.
- A title has not been currently subscribed to for at least five years and the related programs have been discontinued.
- A title has been replaced by electronic access (or a different form of electronic access) and its retention is no longer necessary or advisable.

Out of print acquisition

World Wide Web access to out-of-print dealers now often makes location of these items relatively convenient. As with other acquisitions, out-of- print titles will be acquired if there is a clear need to have the specific item in the collection and the price is reasonable.

Preservation

The Collection Development Librarian will consult with the Special Collections Department on all matters relating to the care, repair, and safekeeping of all circulating library materials regardless of format type. Preservation issues of importance to the Collection Development Librarian include:

Collection maintenance of existing materials – rehousing, rebinding, repair, conservation, media transfer

Deacidification projects - selected titles, whole collections, or partial collections

Reformatting materials to microfilm or digital images

Questions related to gifts-in-kind that might require preservation attention before materials are added to the collection.