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Collection Development Policy, Materials Science

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Collection Development Statement

Department: Materials Science and Engineering
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Collection purpose

To support teaching and research at the graduate level as well as faculty research the library selects and maintains materials in materials science and engineering. The Department of Materials Science and Engineering is part of the College of Engineering and Computer Science. Degrees offered which the library supports include:

GRADUATE PROGRAMS

Materials Science and Engineering, Ph.D., M.S.

The Materials Science and Engineering PhD program provides students an applied research-based education suitable for seeking employment in industry or academia and is based upon a solid core emphasizing the foundation of materials science and engineering with advanced knowledge in state-of-the-art applications.

The Master of Science degree in Materials Science and Engineering (M.S.M.S.E.) is intended primarily for a student with a bachelor’s degree in Materials Science and Engineering or a closely related discipline obtained from a recognized accredited institution.

Fields of emphasis and research for materials science and engineering include crystal growth, high temperature materials and coatings, multicomponent interdiffusion, material stability and degradation, shape memory alloys, mechanical behavior, magnetic and optical and electronic materials, thin films, solar cells, sensors, ceramics, powder metallurgy, non-equilibrium processing of materials, nanosynthesis and consolidation, nanomaterials including quantum dots nanowires and nanocomposites, biomaterials, and electrochemically active materials.

Collection Description

The collections of the College of Engineering and Computer Science support the research and teaching interests of the faculty and students in both M.S. and PhD programs in materials science and engineering. General works are collected at the introductory level. Popular treatment is acquired selectively. Juvenile materials are excluded.

Relevant Indexes include:

Abstracts in New Technology & Engineering
Aluminum Industry Abstracts
Applied Science and Technology
ASTM Compass
Ceramic Abstracts
Copper Technical Reference Library

Corrosion Abstracts
Engineered Materials Abstracts
Engineering Index
ISI Web of Science (Science Citation)
Materials Business File
METADEX
Scitation
Solid State and Superconductivity Abstracts
Springer Materials: The Landolt-Bornstein Database

Collection Guidelines

Chronology: Emphasis/restrictions

Currency is extremely important in materials science and engineering fields. Emphasis is on current research although journal holding are maintained indefinitely. Historical material is collected very selectively.

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:

Materials Science

Metallurgical Thermodynamics
Materials Kinetics
Physical Metallurgy
Mechanical Behavior of Materials
Polymer Science
Optoelectronics Materials Processing
Clay industries. Ceramics. Glass
Materials
Materials science
Metallurgy
Polymers and polymer manufacture
Semiconductor Materials
Nanotechnology

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**
Materials Science			
Materials of engineering and construction. Mechanics of materials	TA 401-492	4	5
Materials handling	TS 180-180.8	3	4
Metallurgy	TN 600-799	3	4
Clay industries. Ceramics. Glass	TP 785-869	3	4
Polymers and polymer manufacture	TP 1080-1185	3	4
Metals Manufactures. Metalworking	TS 220-770	3	4

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 materials science and engineering program holdings and/or relate strongly include:

Chemistry, Physics, and other Engineering disciplines. The library is a member of the Patent and Trademark Depository program and makes patent information available for use by the 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 Materials Science and Engineering 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.