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Engineering Mechanics Collection Development Policy

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Engineering Mechanics Collection Development Policy

University Libraries, University of Nebraska-Lincoln

Virginia Baldwin, December, 2009

Approved: CDC, December 16, 2009

I. GENERAL ACADEMIC PROGRAM INFORMATION

The Department of Engineering Mechanics offers an M.S. degree and participates in the "Mechanics and Energetics Field" option of the Unified Ph.D. Program of the College of Engineering. At the undergraduate level, the Department provides required courses such as engineering graphics, mechanics of rigid and non-rigid bodies, materials science and numerical methods for the various departments of the colleges of Engineering and Architecture. At the graduate level courses are offered in advanced dynamics, advanced mechanics of materials, experimental stress analysis, dimensional analysis, theory of models, finite element techniques, vibrations, digital and analog computer techniques, continuum mechanics, theory of plates and shells, stability, elasticity, plasticity, fracture mechanics, and composite materials.

The major research emphasis is in areas such as structural dynamics, acoustics, theoretical and experimental stress analysis, composite materials, wind turbine design, cardiovascular system modeling, and robotics.

Overlapping subject matter interests for the Department include the following:

Agricultural Engineering Fluid Mechanics, Structures

Biological Systems Engineering Bioengineering

Chemical and Biomolecular Engineering Bioengineering

Civil Engineering Materials of Construction, Structures

Construction Management Materials of Construction

Mechanical Engineering Engineering Graphics, Fluid Mechanics, Fluid Dynamics, Vibrations

Mathematics Nomography, Descriptive Geometry, Analytical Mechanics, Statics, Kinematics, Dynamics, Vibrations, Fluid Mechanics, Numerical Methods

Physics Dynamics, Fluid Mechanics, Properties of Matter Rheology Elasticity

Off-campus, the Department serves on a consultant basis to industry. An example is its work with the Brunswick Corporation on composite pressure vessel technology.

The accreditation body for the Department is the Accrediting Board for Engineering and Technology. One of its library collection criteria states, "The library collection should reflect the existence of an active acquisition policy, which policy should include specific acquisitions on the request and recommendation of the faculty of the engineering unit."

II. GEOGRAPHICAL COVERAGE

Materials limited to a specific country or region are not acquired.

III. CHRONOLOGICAL COVERAGE

Materials limited to the historical treatment of the subject matter are not acquired unless specifically requested by the Department. This restriction applies to all levels of intensity.

IV. IMPRINT DATE

Only materials published in the current year are to be acquired unless specifically requested by the Department.

V. FORMAT/TYPE AND LEVEL OF MATERIALS

Emphasis is on periodicals, serials, and monographs. A research level collection is maintained.

VI. LANGUAGES

Only English language publications are acquired at all levels of intensity. Translations for journal literature and technical reports in German, Russian, and French are purchased.

VII. SPECIAL FACTORS

Engineering Mechanics materials are located in the Engineering Library. Timeliness is a critical factor in the acquisition of many conference publications because publication is usually limited to a small number of copies. This is especially true in the case of societies and university departmental publishers. The only society for which all current publications are acquired is the American Society for Testing and Materials (limited to their standards). *Otherwise the* publications of all other societies and presses are acquired on a selective basis. These societies include:

American Concrete Institute

American Society for Metals

American Society of Civil Engineers

American Society of Mechanical Engineers

Institute of Fracture Mechanics (Lehigh University)

Institute of Physics

Institution of Mechanical Engineers

International Union of Pure and Applied Physics

International Union of Theoretical and Applied Mechanics

Japanese Society for Strength and Fracture of Materials

Joint British Committee for Stress Analysis

Metallurgical Society of AIME

Metals Society

National Aeronautics and Space Administration

National Bureau of Standards

RILEM (Reunion internationale des laboratoires d'essais et de recherches sur les materiaux et les constructions) Society for Experimental Stress Analyses

Society for Industrial and Applied Mathematics

Society for the Advancement of Material and Process Engineering

Society of Plastics Engineers

Society of the Plastics Industry

U.S. Association of Computational Mechanics

Welding Institute.

The Superintendent of Documents, Government Printing Office, collection, in hardcopy or microformat, covers in part or wholly, the following U.S. Government Departments or Agencies:

U.S. Atomic Energy Commission

U.S. Department of Energy

U.S. Environmental Protection Agency

U.S. Federal Energy Administration

U.S. National Institute for Occupational Safety and Health

U.S. National Aeronautics and Space Administration

U.S. Nuclear Regulatory Commission

Where coverage is not complete, the balance of publications for a federal government agency or department is located, in most cases, at Love Library.

The Engineering Library is a U.S. Patent and Trademark and Depository Library Program Library and the publications of the U.S. Patent and Trademark Office are included in the Engineering Library collection. All patent search aids that are provided by the U.S. Patent and Trademark Depository Library Program are retained.

Collections of federal standards and specifications are maintained as well as those of voluntary organizations such as the American National Standards Institute.

VIII. CLASSIFICATION AND INTENSITY LEVEL

(The following are listed by LC Class, Subject, and then by Intensity Level)

QA 808.2 Continuum Mechanics RESEARCH

QA 821 Statics RESEARCH

QA 841 Kinematics RESEARCH

QA 842-871 Dynamics RESEARCH

QA 901-930 Mechanics of Deformable Bodies RESEARCH

QA 931-939 Elasticity, Plasticity RESEARCH

QC 120-168.85 Descriptive and Experimental Mechanics RESEARCH

QC 189.5 Rheology RESEARCH

QC 221-246 Acoustics. Sound RESEARCH

QC 251-338.5 Heat RESEARCH

T 57 Applied Mathematics RESEARCH

T 351-385 Engineering Graphics RESEARCH

TA 164 Bioengineering RESEARCH

TA 329-348 Engineering Mathematics. Engineering Analysis RESEARCH

TA 349-359 Mechanics of Engineering. Applied Mechanics RESEARCH

TA 365-367 Acoustics in Engineering. Acoustical Engineering RESEARCH

TA 401-492 Materials of Engineering and Construction. Mechanics of Materials RESEARCH

TA495 Disasters and Engineering RESEARCH

TA 630-695 Structural Engineering (General) RESEARCH

TA 703-712 Engineering Geology. Rock Mechanics. Soil Mechanics RESEARCH