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# Mechanical Engineering Collection Development Policy

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**Mechanical Engineering 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 Mechanical Engineering offers a B.S. It also offers an M.S. degree and participates in the "Chemical and Materials Engineering Field" and the "Mechanics and Energetics Field" options of the Unified Ph.D. Program of the College of Engineering and Technology. The Department offers coursework in heat transfer, fluid mechanics, solar energy engineering, the design and construction of machinery, manufacturing processes, aerodynamics, metallurgy, and nuclear engineering. The major research interests of the Department include metallurgical engineering, thermal-fluid mechanics, and systems and design engineering.

The following represents overlapping interests with other departments:

**Agricultural Engineering** Shop operations, metallurgy, hydraulics, farm machine design

**Chemical Engineering** Fuels and combustion, thermodynamics, atomic power, fluid flow, metallurgy

**Civil Engineering** Pumps and other fluid mechanical devices, cranes, hoists, hydrology, sanitary engineering, structures

**Computer Science** Cybernetics

**Construction Management** Boilers and furnaces, HVAC (Heating Ventilation and Air Conditioning) contracts and specifications

**Electrical Engineering** Power plants

**Engineering Mechanics** Kinematics, dynamics, vibrations, fluid mechanics, systems and design engineering,metallurgy

**Industrial Engineering** Safety

**Mathematics** Dynamics, vibrations, fluid mechanics elasticity,statics, Laplace transforms, differential equations, kinematics

**Physics** Radiation, rheology, thermodynamics, heat transfer, atomic physics, transport theory, solid state theory, properties of matter, metallurgy

**Chemistry** Nuclear physics, crystallography, metallurgy

**Geology** Metallurgy

Consultant projects of direct benefit to Nebraska industry include magnetic gas dynamic studies, heat transfer, aerodynamic heating, pneumatic conveying of fly ash, hydrogen transfer, prevention of grain dust explosions, crop drying, minimization of corrosion in water distribution systems, fusion, nuclear fission economics and waste disposal, and improved turbines for wind energy.

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 unless dealing with the analysis of the failure of a specific engineering work such as a nuclear power plant. This restriction applies to all Levels of intensity.

## 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 acquired unless specifically requested by the Department. Special requests are restricted to materials published in the last three or four years, unless the item is a "classic." This restriction does not apply to periodical backfiles. Backfiles are acquired in microformat when possible.

## 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 should be acquired at all levels of intensity. English translations for journal literature and technical reports in German, Russian, and French are purchased.

## VII. SPECIAL FACTORS

Mechanical Engineering materials are located in the Engineering Library.

Timeliness is a critical factor in the acquisition of many conference publications because editions are usually limited to a small number of copies. This is especially true in the case of societies and university departmental publishers.

All current publications of the following organizations are acquired:

American National Standards Institute

American Society for Testing and Materials

National Bureau of Standards

National Aeronautics and Space Administration (low-numbered publications in various series)

Publications of the following societies are acquired on a selective basis:

Acoustical Society of America

American Academy of Mechanics

American Ceramic Society

American Concrete Institute

American Institute of Aeronautics and Astronautics

American Institute of Chemica1 Engineers

American Mathematical Society

American Nuclear Society

American Society for Nondestructive Testing

ASM International

American Society of Civil Engineers

American Society of Heating, Refrigerating, and Air-conditioning Engineers

American Society of Mechanical Engineers

Instrument Society of America

International Federation of Automatic Control

Materials Research Society

Metallurgical Society of AIME

Metals Society

National Association of Corrosion Engineers

Noise Control Federation

Numerical Control Society

Optical Society of America

Society for Industrial and Applied Mathemtics

Society of Automotive Engineers

Society of Manufacturing Engineers

Society of Nondestructive Testing

Society of Photo-optical Instrumentation Engineers

Welding Institute.

The Superintendent of Documents, Government Printing Office, collection, in hardcopy or microformat, covers in part or wholely 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. Hardcopy is preferred.

## VIII. CLASSIFICATION AND INTENSITY LISTING

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

QA 841 Kinematics RESEARCH

QA 842-871 Dynamics RESEARCH

QA 901-930 Fluid Dynamics. Hydrodynamics RESEARCH

QA 931-939 Elasticity. Plasticity RESEARCH

QC 39 Physical Measurements STUDY

QC 81-114 Weights and Measures STUDY

QC 125 Mechanics RESEARCH

QC 141-168 Fluids. Fluid Dynamics RESEARCH

QC 170-197 Solid State Physics - RESEARCH

QC 176 Solids RESEARCH

QC 176.8E45 Electronics RESEARCH

QC 176.82-.84 Thin Films RESEARCH

QC 189-189.2 Viscosity RESEARCH

QC 221-246 Acoustics. Sound STUDY

QC 251-338.5 Heat RESEARCH

QC 301-310 Change of State STUDY

QC 310.15-319 Thermodynamics RESEARCH

QC 319.8-338.5 Heat Transfer RESEARCH

QC 786.4-791 Nuclear Reactors. Fission. Fusion RESEARCH

QD 79 CHROMATOGRAPHY STUDY

QD 146-157 Inorganic Chemistry STUDY

QD 171-196 Inorganic Chemistry STUDY

QD 510-536 Thermochemistry (including Combustion) RESEARCH

QD 551-571 Electrochemistry STUDY

QD 931-947 Physical Properties of Crystals RESEARCH

TA 349-360 Applied Mechanics RESEARCH

TA 365-367 Acoustics in Engineering RESEARCH

TA 368 Standards RESEARCH

TA 401-495 Materials RESEARCH

TC 171-179 Technical Hydraulics STUDY

TD 172-192 Environmental Pollution STUDY

TD 881-890 Air Pollution STUDY

TD 891-893.5 Noise Pollution STUDY

TH 7005-7699 Heating and Ventilation RESEARCH

TJ Mechanical Engineering RESEARCH

TK 2896-2970 Direct Energy Conversion RESEARCH

TK 7800-8360 Electronics RESEARCH

TK 9001-9401 Nuclear Engineering RESEARCH

TL Motor Vehicles. Aeronautics RESEARCH

TN 1-126 Mining Engineering STUDY

TN 500-535 Ore Dressing and Milling STUDY

TN 550-580 Assaying STUDY

TN 600-799 Metallurgy RESEARCH

TP 875-888 Cement Industries STUDY

TP 1101-1185 Plastics and Plastics Manufacturing STUDY

TS 176-183 Manufacturing Engineering STUDY

TS 200-788 Metal Manufactures RESEARCH