11/11/24
Engineering
Theoretical and Applied Mechanics
James O. Smith Papers, 1934-70

Box 1:

Biographical data, 1953-54, 1960, 1969-70
Memorial to James Ohrea Smith
Appointments, 1938-70
Statistical reports, 1965-70
Correspondence, A to W, 1935-37

Letters receives while at Alabama: information on equipment and supplies, orders, information sheets and other communications. Folder F includes a paper on The Farm Home and The World Today.

Letters, 1934-36
Mostly 1935-36, about entering graduate school at Cornell, requests for information and quotations, letters about tests made, letters of recommendation. He was then Instructor in Mechanics and Testing at Alabama.

Correspondence, University of Illinois, 1938-39
Letters received and rough drafts and carbon copies of letters sent, in chronological order. Letters of recommendation: letters about theses, concerning publications, about materials and testing, communications about tests for clients, requests for equipment and travel expense vouchers and records

1940-42
1946-47
1948-49
1950-53
1954, 1963-68

Army affairs, 1950-52
Army forms, information and announcements. 5000th ORC R&D Unit. Illinois Military District, Navy Pier, Chicago/5000th USAR Research & Development (TNG), James O. Smith, Lt. Col. Ord D. Commanding

1952
About his promotion--list of OR R&D Unit locations and commanding officers and other items related to the Reserve Unit

Student Officer Education, 1964
From Student Detachment (5002) Headquarters, Fifth U.S. Army, Chicago. About Student Officers Consolidated Report of Program Completion (Civil Engineering and City Planning), with curriculum schedule, comments on T. A. M., and comments by Louis B. Wetmore, Department of City Planning and Landscape Architecture

Bowling, 1937-40
Faculty Bowling League, records, standings, rules and letter of information
Calculations
6th grade artwork, October 1953

The materials listed in this document are available for research at the University of Illinois Archives. For more information, email illiarch@illinois.edu or search http://www.library.illinois.edu/archives/archon for the record series number.
English papers of Nancy Smith, 1959
Problem solutions, T. A. M. 426, 1970
T. A. M. 114, Theory of Elasticity, class notes, 188 p., 1941-42
Class notes and calculations for T. A. M. 112
Mechanics 103
1946-48, 1951
T. A. M. 118 materials, calculations, quizzes, also, T. A. M. 41, 321, 116 (1946-48),
117, 1 and 3.  1951 announcement of T. A. M. Department dinner meeting
T. A. M. Department, 1947-49, 1966
Information on student wages (1949), list of T. A. M. staff (1947-48).  Items related to the
nomination of Ralph J. King by the Honor and Awards Committee, 1966
T. A. M. 221
"Elementary Mechanics of Deformable Bodies" or "Resistance of Materials," material about
course content and construction, ca. 1957
War Armament, Defense Research Committee, 1950-51
Schedule of visit of officials of the Office of Air Research (1951) and related
announcements.  1950 recommendations regarding University defense research
policy.  Minutes of related Engineering Experiment Station Committee meetings.
University affairs, 1938-49
Mimeographed announcements, letters and executive committee meeting minutes, especially
material related to the Engineering College
1952
Mimeographed reports, especially related to the University Senate
1951-66
University Senate, committee reports, letters, announcements and report of the
committee on Long Range Plans, February 15, 1962
Engineering College, Policy and Development Committee, 1943-46
Minutes, letters, notes and related information
1946-50
Minutes, letters, notes and related information
More notes, minutes, announcements and reports, 1947-70
Buildings, late 1940's
Plans & requests for improvement, includes consideration of Ceramics, Electrical
Engineering, Mechanical Engineering, Metallurgical Engineering, Physics
and Talbot Lab (T. A. M.)
Long range plans, 1961

Box 2:

Proposed doctoral programs, 1969-70
Xerox copies of proposals for new University of Illinois programs and related articles,
including Economics, Chemistry, Physiology and Social Work
Engineering Education ECPD, 1961
Copies of editorials and articles, 1964
ASEE (5 folders)
  Goals of Engineering Education, by Smith and Curtis. Various reports and editions,
  early drafts, corrected copies, annotated copies for other people and related
  material. Appendix is "Engineering as a General Preparation for Life."
  3 folders, 1964-70
Engineering, Subcommittee on Humanities and Social Sciences, 1962-64
  Letters, minutes, drafts, reports
Engineering/Humanities/Social Science
  Draft reports (result was required sequences of elective courses)
  Final drafts, undated material
  Related publications
Committee on Continuing Engineering Education, 1966-70
  Report and related material
Ford Foundation correspondence, 1958-67 (4 folders)
  Loans, 1962-70
  Applications for people to work in T. A. M. Information about the Ford Foundation
  program
Student loan applications, 1962
BUILD Conference on "The Role of the University in Continuing Engineering Education," related
  material

Box 3:

Continuing Engineering Education
  Related publications
Alabama and North Carolina
  Information on their engineering education programs at the state universities
Missouri--Rolla
  A report by the Department of Engineering Mechanics at the University of MIssouri, in
  support of its request . . . to offer graduate work leading to the PhD (Smith assisted
  in evaluation)
Ohio State and Wisconsin
  Information about their programs
Tennessee State University, Nashville, 1970
  Reports of consultants on their engineering program
Report on Education Needs of Rockford Area Engineers, 1964
Quad-cities, graduate study center, Rock Island, 1969-70
  Information and papers on proposed programs in T. A. M. and E. E.
Engineering extension, 1970
Manuscript, The Beam Formula, 8 pp.
Math Bulletin, "Internal stress due to the pressure of one body upon another. Including original mathematical analysis"

"Plastic Bending of Mild Steel Beams subjected to Unsymmetrical Loading" (Introductory material only), 1951

"Historical Developments in the Relationship between Mechanical Engineering and Engineering Mechanics," (copy with marginal notes), presented, ASME meeting, December 1964

Publication, "The Effect of Range of Stress on the Torsional Fatigue Strength of Steel," with manuscript, 1939

"Fatigue and Static Load Tests of a High-Strength Cast Iron at Elevated Temperatures," manuscript and preprint, 1941

Notes Preparation Bul. 334

Publication, "The Effect of Range of Stress on the Fatigue Strength of Metals," bulletin 334, includes manuscript, 1942

"The Notch Sensitivity of Alloyed Cast Irons subjected to Repeated and Static Loads," 1942

"Stresses due to Tangential and Normal Loads on an Elastic Solid with Application to some Contact Stress Problems," 1952

"Axial Tension and Bending Interaction Curves for Members loaded Inelastically," 1952

"Critical Review and Interpretation of the Literature on Plastic (Inelastic) Behavior of Engineering Metallic Materials," 1952 (see also Plasticity Project, under "Research")

1961-68

"A Resolved Shearing Stress Energy Theory of Failure by Slip of a Polycrystalline Metal with Face-centered Cubic Lattice Crystals," 1961


"Compromise and Decision Making: Humanities and Social Sciences Education in Engineering and other Professional Fields," 1964

"Experimental and Analytical Investigation of the Film-conductance Coefficient Boundary Condition for Thermal Shock of a Conical Shell," 1965

"Buckling of Inelastic, Tapered, Pin-ended Columns," 1968

1970

"Torsional Analysis of Heavy Box Beams in Structures"

"Modern Engineering and its Relationship with Engineering Education"

Includes historical information (theory and technology), examples and present curriculum

Discussion of "Fatigue of Metals" by I.A. Oding and V.S. Ivanova

South African Society of Civil Engineers, minutes of proceedings, 3rd and 4th meetings, 1941
Also, Engineer, v. 4, no. 3, autumn 1963

Research, W.L. Everett: "Engineering Research in the Universities"
Cumberland Steel Company, 1947-50

Diagrams, graphs, reports, letters and report: "Stresses in Shafting Due to Contact with Feed Roll"
English College, annual reports, 1948-52
Plasticity Project, 1950-53
   Letters to Wright Air Development Center about contract and reports. Brochure on material (ALCOA) and order for material. Drawings, calculations, notes, draft of: "Axial Tension and Bending Interaction Curves for Members Loaded Inelastically" by D.P. Bruch, O.M. Sidebottom and J.O. Smith. Original proposal: "An Investigation of the Behavior of Overstrained Thick-walled Cylinders"
SR-4 Strain Gages
   Price lists, information about, orders & instructions for use of gages (used in research), 1949-53
Land Grant University Centennial, 1960-68 (2 folders)