

# Guide to the Walter Jack Cunningham Papers

MS 1479



compiled by Diane E. Kaplan

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## Collection Overview

**REPOSITORY:** Manuscripts and Archives  
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**CALL NUMBER:** MS 1479

**CREATOR:** Cunningham, Walter Jack, 1917-

**TITLE:** Walter Jack Cunningham papers

**DATES:** 1941-1987

**PHYSICAL DESCRIPTION:** 6.5 linear feet (15 boxes)

**LANGUAGE:** English

**SUMMARY:** The papers consist of teaching materials for electrical engineering and engineering and applied sciences courses taught at Yale University. Included are lecture notes, problems, and examinations.

**ONLINE FINDING AID:** To cite or bookmark this finding aid, please use the following link: <https://hdl.handle.net/10079/fa/mssa.ms.1479>

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## Requesting Instructions

To request items from this collection for use in the Manuscripts and Archives reading room, please use the request links in the HTML version of this finding aid, available at <https://hdl.handle.net/10079/fa/mssa.ms.1479>.

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Key to the container abbreviations used in the PDF finding aid:

b.      box  
f.      folder

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## Administrative Information

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### Immediate Source of Acquisition

Gift of W. Jack Cunningham, 1988.

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## Conditions Governing Access

The materials are open for research.

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## Conditions Governing Use

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## Preferred Citation

Walter Jack Cunningham Papers (MS 1479). Manuscripts and Archives, Yale University Library.

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## Biographical / Historical

Walter Jack Cunningham was born on August 21, 1917, in Comanche, Texas. He graduated from Waco High School and attended Baylor University, before transferring to the University of Texas. He received his A.B. degree from there in 1937 and his A.M. degree in 1938. Cunningham did further graduate work at Harvard University and received an M.S. in 1939 and a Ph.D. in 1947. While at Harvard he taught in the Physics Department. Cunningham joined the Yale University faculty in 1946 and taught in the departments of electrical engineering, engineering and applied science, and mathematics. His chief areas of research included systems theory, non-linear analysis, computation, and acoustics. He served on the editorial board of *American Scientist* and is the author of *Nonlinear Analysis*. Cunningham died in Hamden, Connecticut, on January 7, 2004.

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## Scope and Contents

The Walter Jack Cunningham Papers are composed of course syllabi, lecture notes, problem sets, exams, and other course materials, which document Walter Jack Cunningham's long career teaching engineering. Cunningham gave his papers to the Yale University Library in 1988.

The papers are arranged by course title, and all materials for a course are grouped together. Course titles are listed chronologically according to the earliest date the course was offered and files include all materials used for the same course in following years. When materials were used for more than one course, the materials are filed under the earliest course date, with later course numbers indicated in parentheses in the list that follows.

The earliest papers date from Cunningham's course in acoustics at Harvard University. Subsequent materials relate to courses taught at Yale University in the departments of electrical engineering, engineering and applied science, and mathematics. Cunningham's work at Yale focused on applied math and linear systems theory, and the assembled materials demonstrate the evolution of courses in systems and control and calculus. Other course materials relate to topics in electron optics, engineering analysis, fields and circuits, and energy.

## Collection Contents

b. 1, f. 1-7	Physics 26a--Acoustics	1941 November 12 - 1946 August
b. 1, f. 8	Electrical Engineering 33a--Alternating-Current Circuits	1946-1947
b. 1, f. 9-15	Electrical Engineering 103--Engineering Analysis (EAS 400)	1946-1957
b. 2, f. 16-23	Electrical Engineering 103--Engineering Analysis (EAS 400)	1957-1964
b. 2, f. 24-27	Electrical Engineering 120a--Acoustics	1947-1955, 1977
b. 3, f. 28-32	Electrical Engineering 120a--Acoustics	undated
b. 3, f. 33-35	Electrical Engineering 117b--Electron Optics	1949-1952
b. 3, f. 36-41	Electrical Engineering 127b--Nonlinear Analysis (Numerical Analysis) (EAS 424a)	1953-1966
b. 4, f. 42-44	Electrical Engineering 127b--Nonlinear Analysis (Numerical Analysis) (EAS 424a)	undated
b. 4, f. 45-48	Electrical Engineering 127a--Numerical Analysis (EAS 57b)	1956-1966, undated
b. 4, f. 49-52	Electrical Engineering 28--Fields and Circuits	1960-1962
b. 5, f. 53-57	Electrical Engineering 28--Fields and Circuits	1962-1964
b. 5, f. 58-60	Electrical Engineering 35--Electronic Circuits (EAS 35a, 29a, 35b)	1963-1968
b. 5, f. 61-63	Engineering and Applied Science 20--Engineering Science	1964-1965
b. 5, f. 64-65	Engineering and Applied Science 12a--Computers	1967-1972
b. 6, f. 66-73	Engineering and Applied Science 12a--Computers	1967-1972, undated
b. 6, f. 74-81	Engineering and Applied Science 13b--Communications and Control (EAS 45a)	1967-1973
b. 7, f. 82-88	Engineering and Applied Science 84b--Seminar in Environmental Quality Control	1971-1976
b. 7, f. 89-92	Engineering and Applied Science 76a-130a--Control System I (K.S. Narendra)	1972-1973
b. 7, f. 93-97	Engineering and Applied Science 77b--Control Systems (421b)	1973-1974
b. 7, f. 98-99	Engineering and Applied Science 36b--Introduction to Automatic Control (A.S. Morse)	1974
b. 8, f. 100-104	Engineering and Applied Science 36a--Systems and Control I	1974-1978
b. 8, f. 105-108	Engineering and Applied Science 37b--Systems and Control II (337b)	1974-1978
b. 8, f. 109-110	Engineering and Applied Science 336a--Systems and Control I	1978-1979
b. 9, f. 111-112	Engineering and Applied Science 336a--Systems and Control I	1978-1980
b. 9, f. 113-120	Engineering and Applied Science 337b--Systems and Control II	1979-1980
b. 10, f. 121	Engineering and Applied Science 337--Systems and Control II	1980

b. 10, f. 122-124	Engineering and Applied Science 21a--Applied Math I (CS 27a, EAS 84b, Systems 10, 1975-1976 EAS 34c)	
b. 10, f. 125-129	Engineering and Applied Science 30b--Applied Math I (195b, 295a)	1975-1983
b. 11, f. 130-135	Engineering and Applied Science 295b--Applied Math I (195b)	1978-1982
b. 11, f. 136-138	Engineering and Applied Science 33c (Systems 10)--Systems Theory (K.S. Narenda)	1976
b. 11, f. 139	Engineering and Applied Science 34c	1976
b. 11, f. 140-144	Systems 20--Applications of Systems Theory	1976
b. 11, f. 145-146	Systems 20--Applications of Systems Theory	1976
b. 12, f. 147-149	Math 120a--Calculus of Functions of Several Variables (B.T. Chu; S. Lang)	1976-1977
b. 12, f. 150-156	Math 120a--Calculus of Functions of Several Variables	1977-1981
b. 12, f. 157	Engineering and Applied Science 130a--Energy: The Next Thirty Years	1978
b. 13, f. 158-162	Engineering and Applied Science 109a--Perspectives on Energy	1979-1981
b. 13, f. 163-168	Electrical Engineering 336a--Systems and Control I	1982-1987
b. 13, f. 169	Electrical Engineering 337b--Systems and Control II	1982-1985
b. 14, f. 170-172	Electrical Engineering 337b--Systems and Control II	1986
b. 14, f. 173	Math 120b--Calculus of Functions of Several Variables	1982
b. 14, f. 174-175	Engineering and Applied Science 194b--Ordinary and Partial Differential Equations with Applications	1984-1985
b. 14, f. 176-178	Engineering and Applied Science 395a/512a--Non-Linear Ordinary Differential Equations with Applications	1985-1986
b. 15, f. 180-181	Engineering and Applied Science 395a/512a--Non-Linear Ordinary Differential Equations with Applications	1986-1987
b. 15, f. 182	Historical notes on engineering at Yale	1978-1980

## **Selected Search Terms**

The following terms have been used to index the description of this collection in the Library's online catalog. They are grouped by name of person or organization, by subject or location, and by occupation and listed alphabetically therein.

### **Subjects**

Calculus -- Study and teaching  
Electrical engineering -- Study and teaching  
System analysis -- Study and teaching

### **Names**

Cunningham, Walter Jack, 1917-

### **Corporate Bodies**

Yale University. Dept. of Electrical Engineering  
Yale University. Dept. of Engineering and  
Applied Science  
Yale University -- Curricula  
Yale University -- Faculty