

COURSE DETAIL

INFORMATION THEORY

Country

Singapore

Host Institution

National University of Singapore

Program(s)

National University of Singapore

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Computer Science

UCEAP Course Number

136

UCEAP Course Suffix**UCEAP Official Title**

INFORMATION THEORY

UCEAP Transcript Title

INFORMATION THEORY

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

This course introduces the basics of information theory, covering how information can be quantified, and how this quantification can be used to provide an understanding of data compression and communication. While this course focuses on these classical applications of information theory, the underlying mathematical tools and techniques have since been demonstrated as being considerably more far-reaching, with broad applications in modern machine learning and data science. Topics covered include Shannon's information measures and their properties, fundamental limits of data compression and noisy channel coding, and practical compression and error-correcting codes.

Language(s) of Instruction

English

Host Institution Course Number

CS3236

Host Institution Course Title

INTRODUCTION TO INFORMATION THEORY

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Computer Science

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