

COURSE DETAIL

STATISTICAL MACHINE LEARNING

Country

United Kingdom - Scotland

Host Institution

University of St Andrews

Program(s)

University of St Andrews

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Mathematics Computer Science

UCEAP Course Number

147

UCEAP Course Suffix**UCEAP Official Title**

STATISTICAL MACHINE LEARNING

UCEAP Transcript Title

STAT MACHINE LEARN

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

Machine learning tools are widely used across various aspects of contemporary society. A solid understanding of the foundations that support these tools is essential for developing new methods and assessing existing ones. This course introduces the mathematical and statistical theory behind modern machine learning methods. The course explores the why and how of machine learning methods from a theoretical perspective considering generalization, regularization, and optimization. Key techniques including kernel-based methods, tree-based methods, and neural networks are discussed, along with recent developments.

Language(s) of Instruction

English

Host Institution Course Number

MT4570

Host Institution Course Title

STATISTICAL MACHINE LEARNING

Host Institution Course Details

https://www.st-andrews.ac.uk/subjects/modules/catalogue/?meta_semester_sand=2&m...

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department

Mathematics

Course Last Reviewed

2025-2026

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