COURSE DETAIL

ELECTROMAGNETISM AND OPTICS
Country New Zealand
Host Institution University of Otago
Program(s) University of Otago
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Physics
UCEAP Course Number 132
UCEAP Course Suffix
UCEAP Official Title ELECTROMAGNETISM AND OPTICS
UCEAP Transcript Title ELECTROMAG & OPTICS
UCEAP Quarter Units 7.00
UCEAP Semester Units 4.70

Course Description
This course develops the classical theory of electromagnetism in terms of Maxwell's equations, both in vacuum and in media. A major emphasis is placed on the use of vector calculus and its related integral theorems to solve for electric and magnetic fields. The formal similarity of electrostatic and magnetostatic problems is shown, and principles of symmetry and superposition are used to facilitate solution. Electromagnetic induction and the energy of electromagnetic fields are introduced. Fundamental concepts in optics are developed in terms of electromagnetism, including light propagation, interference, reflection, refraction, transmission at interfaces, and applications in diffraction.

Language(s) of Instruction
English

Host Institution Course Number
PHSI232

Host Institution Course Title
ELECTROMAGNETISM AND OPTICS

Host Institution Campus
Dunedin

Host Institution Faculty

Host Institution Degree

Host Institution Department
Physics

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