COURSE DETAIL

MULTIVARIABLE CALCULUS
Country Singapore
Host Institution National University of Singapore
Program(s) National University of Singapore
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Mathematics
UCEAP Course Number 104
UCEAP Course Suffix
UCEAP Official Title MULTIVARIABLE CALCULUS
UCEAP Transcript Title MULTIVARIABLE CALC
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description
This is a course on the calculus of functions of several real variables, applications of which abound in mathematics, the physical sciences, and engineering. The aim is to provide computational skills, ability for 2- and 3-D visualization, and to understand conceptually fundamental results such as Green's Theorem, Stokes' Theorem and the Divergence Theorem. Major topics: Euclidean distance and elementary topological concepts in Rn, limit and continuity, implicit functions. Partial differentiation, differentiable functions, differentials, chain rules, directional derivatives, gradients, mean value theorem, Taylor's formula, extreme value theorem, Lagrange multipliers. Multiple integrals and iterated integrals, change of order of integration, applications, Jacobian matrix, change of variables in multiple integrals. Line integrals and Green's theorem. Surface integrals, Stokes' Theorem, Divergence Theorem.

Language(s) of Instruction
English

Host Institution Course Number
MA2104

Host Institution Course Title
MULTIVARIABLE CALCULUS

Host Institution Course Details

Host Institution Campus

Host Institution Faculty

Host Institution Degree

Host Institution Department
Mathematics

Course Last Reviewed

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