Introduction to mathematical analysis 2

Course Syllabus
Fall Term 2014 — SNU

Course Title	Introduction to mathematical analysis 2 (in English)
Course number	3341.202
Instructor	Gerald Trutnau
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Course homepage	`http://www.math.snu.ac.kr/~trutnau/teachingA22014.html`
Course Objective	The course gives an introduction to multidimensional infinitesimal calculus.
References	J.E. Marsden & M.J. Hoffman, *Elementary Calssical Analysis*, 2nd edition, Freeman; W. Rudin, *Principles of Mathematical Analysis*, 3rd edition, McGraw-Hill, 1976 Other references: M.H. Protter & C.B. Murrey, *A First Course in Real Analysis*, Springer, 2nd edition, 1991; T.M. Apostol, *Mathematical Anaysis*, 2nd edition, Addison-Wesley, 1974
Description	The course is a continuation of "Introduction to mathematical analysis 1".
Tentative content	Uniform convergence of functions, differentiation and integral of functions, power series and analytic functions, trigonometric series, Weierstrass approximation theorem, Arzela-Ascoli theorem, space of sequences, singular integral, functions defined by an integral, Gamma function, integral transformation, basic properties of the Fourier transform, the Fourier transform of a continuous and a differentiable function, Lebesgue integral and Fourier series.
Teaching Method	Lecture, exercises.
Evaluation	Midterm (8th week, 75 minutes, 30 % of final score); Final exam (15th week, 75 minutes, 30 % of final score); Assignment sheets (30 % of final score); Attendance (10 % of final score). Students must solve exercises regularily, and will be given assignment sheets every week.