科目：**實變函數論(Real Analysis)**

參考書： H. L. Royden & P. Fitzpatrick: Real Analysis, Pearson, Boston, 2010, 4rd Edition.
(Chapters 2~7, Section 8.1, Chapters 17, 18 except 18.5, Sections 20.1, 20.2)

Topics in Real Analysis :

1. Lebesgue measure : measurable functions.
2. Lebesgue integral : convergence theorems, convergence in measure.
3. Differentiation and integration : monotonic functions, functions of bounded variation, absolute continuity.
4. Lp spaces : Riesz representation theorem.
5. General measure and integration theory : finite and σ - finite measures, convergence theorems, signed measures, real measures, Radon-Nikodym theorem.
6. Product spaces : product measures, Fubini theorem.
7. Outer measures and measurability.
8. Measure and topology : Baire measures, Borel measures.