Advanced Macroeconomics (IEE. B402, Offered Quarter=2Q)

Time: Tuesdays and Fridays 15:05-16:35

Room: W9-508 (*) Note that the class room has been changed. Instructors:

- Ryoji Ohdoi (Associate Prof., Indust. Eng. & Econ.)
 - The first half (June 14 July 9)
 - Office hour: W9-636, Tuesdays and Fridays 13:20-14:50, or by appointment
 - E-mail: ohdoi.r.aa[at]m.titech.ac.jp
- Takeo Hori (Associate Prof., Indust. Eng. & Econ.)
 - The second half (July 12 August 2)
 - Office hour: TBA
 - E-mail: hori.t.ag[at]m.titech.ac.jp

Grading policy: 50% (the first half by Ohdoi) and 50% (the second half by Hori)

Course description: This course is designed for mainly first-year graduate students to help them understand the basic analytical tools of modern macroeconomics. The first half of this course covers (i) the mathematical methods often used in macroeconomics and (ii) the standard macroeconomic model, called the Ramsey–Cass–Koopmans model, which now gives us a benchmark for many areas of macroeconomic analysis.

Then, in the second half, we extend this model to understand the mechanics of several important economic phenomena, including economic growth, business cycles, unemployment, and so on.

References: There is no designated textbook. Handouts or slides used for each class will be available on the corresponding page of Tokyo Tech OCW by the day before the class. The books listed below are main references of this course, which we will refer to in the teaching materials.

- [1] Acemoglu, D. (2009) Introduction to Modern Economic Growth, Princeton University Press.
- [2] Barro, R. J. and X. Sala-i-Martin (2004) *Economic Growth*, Second Edition, Cambridge, MIT Press.
- [3] Blanchard, O. and S. Fischer (1989) Lectures on Macroeconomics, Cambridge, MIT Press.

- [4] Romer D. (2018) Advanced Macroeconomics, Fifth Edition, McGraw-Hill.
- [5] Sorger G. (2015) Dynamic Economic Analysis, Cambridge University Press.

Topics covered in the course:

- The first half (by Ohdoi)
 - 1. Introduction to dynamic optimization in continuous time (3 lectures)
 - (a) A canonical problem of continuous-time optimization
 - (b) Household's dynamic utility maximization and its economic implications
 - (c) Firm's dynamic profit maximization and its economic implications
 - 2. The standard macroeconomic model and its applications (3-4 lectures)
 - (a) Setup of the model and characterization of equilibrium
 - (b) Social planner's allocation and efficiency of equiliblirum
 - (c) Some applications
- The second half (by Hori)

TBA