| ◎ 科目名                                  | Adv Econometrics I _上級計量経済学特論 I |
|--|---------------------------------|
| 科目名/Subject                            | Advanced Econometrics I         |
| 🤨 担当教員                                 | KO IAT MENG                     |
| 但当教員/Instructor                        | KO IAT MENG                     |
| @ 曜日・講時/Day/Period                     | 前期 水曜日 2講時                      |
| ──対象学年<br>── /Eligible Participants    | 1年/1year                        |
| ○ 科目ナンバリング                             | EEM-ECO512E                     |
| ● 単位数/Credit(s)                        | 2                               |
| ● メディア授業科目<br>○ /Course of Media Class |                                 |

| 授業の目的<br>と概要<br>/ Object and<br>summary<br>of class  | This course is one-semester advanced level econometrics. The prerequisites are Econometrics I and II. This course should be regarded as the entry level econometrics course for PhD program. Students are required to complete the two courses before enrolling in this one. In this course, we will study econometrics in greater depth with both old topics (such as linear regression) and new topics (such as panel data model). Mathematical tools, for example, vector and matrix, are extensively used in deriving estimations and inferences. Random sample (independence) is assumed in most of the topics. Dependent sample will be covered in Advanced Econometrics II.  |                         |     |                 |           |          |  |  |
|--|---|-------------------------|-----|-----------------|-----------|----------|--|--|
| 学修の<br>到達目標<br>/Goal of<br>study   | The students are expected to have a much deeper understanding of modern econometrics. The topics covered in this course are essential for rigorous economic research either empirically or theoretically.   |                         |     |                 |           |          |  |  |
| 授業内容・<br>方法と<br>進度予定<br>(Contents<br>and<br>progress<br>schedule<br>of the class   | Conditional Expectation and Projection (Hansen Chapter 2 & 3; Hong Chapter 2; Wooldridge Chapter 2)  - Conditional Expectation  - Best predictor under MSE criteria  - Linear projection and Least Squares Estimator  - Correct model specification  Single-Equation Linear Model (Hansen Chapter 4-7, 9; Hong Chapter 3-4; Wooldridge Chapter 3-4)  - Classical linear regression models: OLS and MLE  - Large sample linear regression models: OLS and Method of Moment  - Hypothesis testing  Single-Equation Linear Model with Instrumental Variables Estimation (Hansen Chapter 12 & 13; Wooldridge Chapter 5)  - Generalized method of moment under i.i.d.  - Two-stage least squares estimation  Multiple-Equation Model (Hansen Chapter 11; Wooldridge Chapter 7)  - Seemingly Unrelated Regressions: OLS and GLS  Linear Unobserved Effects Panel Data Models (Hansen Section 17.1-17.27; Wooldridge Chapter 10)  - FD, FE, RE methods |                         |     |                 |           |          |  |  |
| 実務・<br>実践的授業<br>/Practical<br>business<br>※Oは、<br>受務・実践的<br>授業であることを示す。<br>/Note:"O"<br>Indicates<br>the practical<br>business |   |                         |     |                 |           |          |  |  |
| 使用言語<br>/Language<br>Used in<br>Course   | English   |                         |     |                 |           |          |  |  |
| 成績<br>評価方法<br>/Evaluation<br>method  | Assignments (40%) Mid-term exam (30%) Final exam (30%)  |                         |     |                 |           |          |  |  |
| 教科書<br>および<br>参考書<br>/Textbook<br>and<br>references  | No 書名  1. 『Econometrics』  | 著者名<br>Hansen, Bruce E. | 出版社 | 出版<br>年<br>2022 | ISBN/ISSN | 資料種<br>別 |  |  |

| @   | 2.  Foundations of Modern Econometrics: A Unified Approach  3.  Econometric Analysis of Cross Section and Panel Data   | Hong, Yongmiao Wooldridge, Jeffrey M. | World Scientific Pub<br>Co. | 2020 |  |  |  |
|---|--|---------------------------------------|-----------------------------|------|--|--|--|
| ────────────────────────────────────      | Google Classroom: ipfaqju  |                                       |                             |      |  |  |  |
| 授業時間外<br>学修<br>/Preparation<br>and Review | n  |                                       |                             |      |  |  |  |
| 添付<br>クファイル<br>Attached<br>File           |  |                                       |                             |      |  |  |  |
| その他<br>/In addition                       | Lecture slides will be distributed. No single textbook will be exactly followed. Selected chapters from different textbooks will be listed as reading materials. |                                       |                             |      |  |  |  |
| 更新日付<br>// Last<br>Update                 | 2023/02/28 16:32   |                                       |                             |      |  |  |  |

1単位の授業科目は、45時間の学修を必要とする内容をもって構成することを標準としています。1単位の修得に必要となる学修時間の目安は、「講義・演習」については15~30時間に授業および授業時間外学修(予習・復習など)30~15時間、「実験、実習及び実技」については30~45時間の授業および授業時間外学修(予習・復習など)15~0時間です。

One-credit courses require 45 hours of study. In lecture and exercise-based classes, one credit consists of 15-30 hours of class time and 30-15 hours of preparation and review outside od class. In laboratory, practical skill classes, one credit consists of 30-45 hours of class time and 15-0 hours of preparation and review outside of class.