The course introduces the major endogenous growth paradigms (Product-Variety and Shumpeterian) and then shows how they can be used to analyze various aspects of the growth process and to think about the design of growth policy. The course will last 9 weeks and is divided into 5 parts: 1) The Neoclassical Theory 2) Endogenous Growth Models; 3) Finance and Growth; 4) Competition and growth; 5) The role of geography and institutions.

### LIST OF TOPICS

**1) Neoclassical Growth Models: theory (6 hours)**
- a) The Solow Model
- b) AK Model
- c) Ramsey Model

**2) Endogenous Growth Models: theory and empirical evidence (6 hours)**
- a) Science and profits
  - i) Popp, AER, 2002
  - ii) Acemoglu and Linn, QJE, 2004
- b) Expanding variety model
  - i) Romer, JPE, 1990
- c) Entry, Exit and Productivity Growth
  - i) Aghion, Antras and Prantl, WP, 2005
  - ii) Aw, Chen and Roberts, JDE, 2001
- d) Shumpeterian model
  - i) Aghion and Howitt, Econometrica, 1992
- e) Scale effects
  - i) Kremer, QJE, 1993
  - ii) Backus, Kehoe & Kehoe, JET, 1992

**3) Finance and Growth: theory and empirical evidence (6 hours)**
- a) A model with Ex-Ante Screening
- b) A model with Ex-Post Monitoring and Moral Hazard
- c) Empirical evidence on Finance and Growth
  - i) Rajan and Zingales, AER, 1998

**4) Competition and Growth: theory and empirical evidence (6 hours)**
- a) Competition as an incentive scheme
- b) The inverted U-relationship between competition and innovation
- c) Empirical evidence
  - i) Nickell, JPE (1996)
  - ii) Blundell, Griffith and Van Reenen, ReStud (1999)
  - iii) Nickell, Nicolitsas and Dryden, EER (1997)
5) **The role of geography and institutions (6 hours)**
   a) Empirical evidence
      i) Diamond (1997)
      ii) Sachs (2012)
      iii) Dell, Jones and Oken (2012)
      iv) Mayshar, Moav, Neeman and Pascali (2016)
      v) Acemoglu, Johnson and Robinson (2001)
      vi) Acemoglu, Johnson and Robinson (2002)
      vii) Dell (2010)
      viii) Nunn (2008)

**EXERCISES AND REQUIRED ACTIVITIES**

- There will be three problems sets, which will be handed out in the fifth, seventh and eight week. You have to hand in the solutions in the following week.

- The seminar classes will start on week 5.

- Students are required to attend both theory and seminar classes.

**EVALUATION SYSTEM**

Course evaluation will be based on the following criteria:

1. **Continuous evaluation**
   (January-March 2016): Problem sets and seminars: 25% awarded according to the following scheme:

   - Handing in handwritten solutions directly the professors of the seminar classes, who will grade the problem sets as: A: Excellent; B: Decent; C: Poor.
     You can work in groups but should end up writing up your own solution. Solution must be HANDWRITTEN. Please be aware that I think your chance of passing this course is almost zero if you do not try and solve the problems yourself. You can work in groups, but I want separate (handwritten!) solutions for everybody. (15%)

   - Attendance to seminars and active participation in the seminar discussion of exercises and problems. IMPORTANT: STUDENTS MUST ATTEND SEMINARS IN THE SUBGROUP TO WHICH THEY ARE ASSIGNED, OTHERWISE NO POINT WILL BE AWARDED. (5%)

   - Solution of one problem at the blackboard. Students can volunteer during the seminar to solve problems at the blackboard. In case more than one student volunteers, the professor will choose randomly among those that did not do it yet. IMPORTANT: STUDENTS MUST SOLVE PROBLEMS IN THE SEMINARS IN THE SUBGROUP TO WHICH THEY ARE ASSIGNED, OTHERWISE NO POINT WILL BE AWARDED. (5%)

2. **Final exam: 75 %**.
The final exam at the end of the quarter will cover all the contents of the course: the material presented in class, the problems discussed in seminars, and the recommended readings.

To pass the course a minimum of 3.5 over 10 in the final exam is required (otherwise the grade of the final exam will also be the grade of the course, and problem sets/seminars will not be taken into account).

3. Re-sit evaluation
You can take a resit exam if your final score from the first evaluation (continuous evaluation + final exam) is (strictly) below 5 over 10

Problem sets and seminars: 10 %
Final exam: 90 %

OFFICE HOURS

Friday: 12.35-1.35pm
Office 20.228

MODULE TEXTS
