# SGH

| Year | 2019/2020 | |
|---|---|---|
| Course title | Growth Theory | |
| Course number | 231571 - 0999 | 3 ECTS points |
| Lecturer | Growiec Jakub Marek, PhD and team: Kolasa Marcin , PhD | |

### A. Course objective

The aim of his course is to familiarize students with the most important models of economic growth, their implications and limitations, as well as the most recent findings of the empirical literature. The course starts with a description of the basic patterns related to economic growth. The presentation of the main theories of economic growth starts off with neoclassical models, treating technological change as exogenous. We next move to various generations of endogenous growth models, including R&D-based growth models and technology diffusion models. The overview of theoretical models ends with a presentation of selected topics in development economics. The course is supplemented with a discussion on the fundamental causes of economic performance. The implications of the presented theories are confronted with the main findings of the empirical literature.

### B. Course syllabus

Growth empirics. Exogenous growth models. First generation endogenous growth models. R&D-based models. Scale effects. Technology diffusion. Appropriate technology. Poverty traps. Topics in development economics.

### C. Educational outcome

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|---|---|
| Knowledge | Familiarity with the main theories of economic growth.<br>Familiarity with implications of the main growth models on the difference between decentralized equilibrium and social optimum.<br>Familiarity with findings of the main contributions to empirics of economic growth. |
| Skills | Ability to recognize and criticise implications of main theories of economic growth, including their empirical validity.<br>Ability to formulate hypotheses on determinants of differences in GDP per capita growth in the world.<br>Ability to evaluate impact of economic policies on economic growth.<br>Ability to read with comprehension journal articles on theory and empirics of economic growth. |
| Social competencies | Recognizing relationships between abstract variables postulated by models and empirical indices of economic performance.<br>Contributing to discussions on determinants of economic growth. |

**D. Semester time table**

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| 1 | Economic growth and development: basic empirical patterns. |
| 2 | The Solow-Swan model; The Mankiw-Romer-Weil model. |
| 3 | The Ramsey-Cass-Koopmans model. |
| 4 | Endogenous growth; The Jones-Manuelli model. |
| 5 | The AK model; The Lucas-Uzawa model. |
| 6 | The two-sector growth model (investment-specific technological change); Growth with externalities. |
| 7 | Endogenous technological change; Expanding variety models (the Romer model). |
| 8 | Schumpeterian growth models (the quality-ladder model). |
| 9 | Scale effects; The Jones critique. |
| 10 | Technology diffusion. |
| 11 | Growth empirics; Real convergence. |
| 12 | Appropriate technology; Directed technological change. |
| 13 | Financial development, market failures. |
| 14 | Multiple equilibria, complementarities, coordination failures, poverty traps. |
| 15 | Fundamental causes of economic performance; The role of institutions, culture and geography. |

**E. Basic literature**

D.Romer, Makroekonomia dla zaawansowanych, PWN, Warszawa 2000, rozdz. 1 i 2; D.Acemoglu, (2009), Introduction to modern economic growth, Princeton University Press; P.Aghion, P.Howitt, (2009), The Economics of Growth, MIT Press; R.Barro, X.Sala-I-Martin, (2003) Economic growth. MIT Press; Do wyboru pozycja 1 lub 2. W przypadku wyboru 3, część materiału z 1 lub 2 jako literatura uzupełniająca.

**F. Supplementary literature**

P.Aghion, S.N.Durlauf, (2005), Handbook of economic growth. Elsevier; R.Rapacki red. Wzrost gospodarczy w krajach transformacji. Konwergencja czy dywergencja?, PWE 2009; A selection of journal articles.

**G. Author's most important publications concerning the offered course**

1. Growiec J. (2013) "A Microfoundation for Normalized CES Production Functions with Factor-Augmenting Technical Change", Journal of Economic Dynamics and Control 37(11), pp. 2336-2350. 2. Growiec J., Schumacher I. (2013) "Technological Opportunity, Long-Run Growth, and Convergence", Oxford Economic Papers 65(2), pp. 323-351 3. Growiec J. (2010), "Human Capital, Aggregation, and Growth", Macroeconomic Dynamics 14(2), pp. 189-211

**H. Numbers of required prerequisites**

not required

**I. Course size and mode**

| | Full-time | Saturday-Sunday | Afternoon |
|---|---|---|---|
| **Total:** | 30 | 14 | 30 |
| Lecture | 30 | 14 | 30 |

| **J. Final mark composition** | | |
|---|---|---|
| traditional examination | 75% | |
| reports | 25% | |

| **K. Foreign language requirments** |
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| English |

| **L. Selection criteria** |
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| Ranking list |

| **M. Methods applied** |
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| Lecture |