

SOPP 5181 – ECONOMICS OF HIGHER EDUCATION**Winter 2022****Syllabus****Course instructor: Kata Orosz**

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COURSE DESCRIPTION

The course will familiarize students with 1) key concepts of economic theory and 2) econometric approaches that are commonly used by policy makers and researchers to conceptualize and study higher education institutions and the students that attend them.

Through a combination of conceptual and empirical readings, group discussions, presentations, and a written assignment, course participants will explore a range of topic areas relevant to higher education policy, including the economic and non-economic benefits of higher education, theories of cost increase in higher education, the economic impact of higher education, higher education production functions, theories of organizational behavior in higher education, the economic and non-economic benefits of higher education internationalization, and the role of higher education in national skills training systems. In addition to considering theoretical approaches grounded in human capital theory, the course will also familiarize participants with alternative frameworks (signaling theory, higher education stratification) used for explaining the relationship between higher education and individual and societal outcomes.

Through the critical assessment of higher education research from a range of national contexts, course participants will also learn about the strengths and limitations of various econometric techniques, such as randomized control trials, Heckman selection models, instrumental variables, and stochastic frontier analysis.

Upon successful completion of this course, students will be able to make theoretically grounded and evidence-based arguments in areas of higher education policy such as higher education finance, access and equity policies, and skills training policies.

Prerequisites

Introductory-level familiarity with economics and statistics is an asset but not a requirement for participation in and successful completion of this course.

Learning outcomes

At the end of this course, students will be able to:

- Apply economic theories and concepts to the analysis of higher education attainment and higher education provision;
- Assess the strengths and limitations of econometric research on issues related to higher education;
- Appraise policy design and policy evaluation in areas related to higher education by drawing on a combination of economic theories and concepts and a critical assessment of available empirical evidence.

Assessment

Students are required to attend class, read the required readings, participate in in-class discussions, hold an in-class presentation, and submit a term paper. The final course grade will be calculated as follows:

- | | |
|---|-----|
| - In-class methods presentation (in groups) | 40% |
| - Term paper | 40% |
| - Class participation | 20% |

Students who audit the class are required to attend class, read the required readings, and participate in in-class discussions.

In-class methods presentation (in groups) (40% of final course grade)

Students are required to give a 20 to 25-minute group presentation on an econometric technique that is commonly used in research on higher education. The methods presentation should introduce the key characteristics of the econometric technique, it should demonstrate the use of the technique through a critical discussion of a relevant published study, and it should reflect on the strengths and limitations of the technique for answering research questions related to higher education. Students are required to use PowerPoint / Prezi for their presentation. **Students will be randomly assigned presentation topics, groups, and dates in the second week of the course.**

Term paper (40% of final course grade)

At the end of the term, students are required to submit a four-page (max. 2000 words) term paper. Students have the choice of writing either a policy-focused term paper, or an empirical term paper.

In a policy-focused the term paper, students must draw on economic theories and concepts to describe a policy issue related to higher education in a specific national / regional context; describe a specific policy or program that has been implemented / proposed to address this issue; and provide a critical synthesis of empirical evidence on the policy issue.

In an empirical term paper, students must draw on economic theories and concepts to describe a policy issue related to higher education in a specific national / regional context, and provide new insights bearing on the topic based on the analysis of quantitative data.

Term papers are due on XXXX by midnight. Late submission will result in the assignment grade being reduced by a grade step (e.g. an A can become an A-) every 24 hours starting from the deadline. Term papers must be submitted through the course's e-learning site. Term papers will be checked for originality with the Turnitin software.

Class participation (20% of final course grade)

Students are required to attend classes, come to class on time, come to class prepared (i.e., read the required readings prior to the class that they are assigned for), and participate in in-class discussions. Being absent from class, being late for class, coming to class underprepared, and not participating in in-class discussions will lower the class participation grade.

Textbook and required readings

Some of the required readings for this course are from the following textbook:

- Toutkoushian, R. K., & Paulsen, M. B. (2016). *Economics of higher education*. New York: Springer.

Students may find the following book helpful in preparing for their in-class methods presentations:

- Angrist, J. D., & Pischke, J.-S. (2009). *Mostly harmless econometrics: An empiricist's companion*. Princeton: Princeton University Press.

Students are not required to purchase the textbook. Three copies of the textbook are on reserve in the CEU library in Vienna for students enrolled in the course. Two copies may be borrowed for a 7-day loan; the other copy is available for reading during library hours. The *Course schedule* lists the textbook chapters that are assigned for particular weeks; PDF copies of these chapters are available on the course's e-learning site. A copy of the Angrist & Pischke book is also placed on reserve in the CEU library for students enrolled in the course; this copy may be borrowed for an overnight loan.

All students enrolled in the course are required to read two articles or textbook chapters in preparation for each class. The list of required readings is available under *Course schedule*, as well as on the course's e-learning site. PDF copies of all required readings are posted on the course's e-learning site.

Student hours and consultations by appointment

Students are welcome to pose questions about the course material, assignments, and other academic matters during the instructor's weekly student hours. The student hours in the Winter 2021 term will be held on **XXX** from **XXX**, in **Room B406** or (if online instruction is in effect, via **Microsoft Teams**).

The instructor is also available for consultation by appointment. Students should request appointments for consultation by emailing the instructor at OroszK@ceu.edu at least 24 hours in advance of the requested meeting.

Policy on attendance (from [SPP Student Handbook on Attendance](#))

Regular class attendance is mandatory and recorded. As a professional school, we expect students to arrive punctually for all classes. Late arrivals are disruptive and faculty have the right to turn late students away from a class. Students must secure the approval of the course instructor in advance if they need to be absent from a class for any reason. Students which needs short periods absence (up to a few days) during the academic year, must secure advance approval from their Program Director. Absence due to medical reasons, students must inform course instructors as well as the [Student Affairs Coordinator](#). A medical note must be submitted (can be done via email), on the day of the sickness, to the SPP [Student Affairs Coordinator](#) who will keep it on file. Class absence(s) that have not been approved may result in a failing grade for the course.

Responsibilities of the instructor

- Come to class on time, prepared;
- Create a safe and inspiring learning environment for students;
- Communicate course-related expectations to students clearly and in a timely manner;
- Use consistent and clearly stated evaluation criteria to grade student assignments;
- Submit assignment grades within two weeks of the assignment deadline;
- Provide reasonably detailed, written feedback to students on their assignments;
- Respond to student emails within 24 hours, with the exception of weekends and holidays;
- Be available for student consultations during weekly student hours and by appointment;
- Be responsive to student feedback.

Feedback on term paper draft

Students are encouraged to request written feedback on the draft of their term paper from the instructor prior to submitting their paper for grade. Feedback will only be provided on drafts that were shared with the instructor by no later than **XXXX midnight** (i.e., up till two weeks before term papers are due).

COURSE SCHEDULE

Class 1: Introduction to the economics of higher education

Date & time: TBD

The first session of the course will be devoted to introductions and the discussion of course participants' areas of interest in the field of higher education policy. The instructor will describe the learning outcomes, session topics, and course assessment in detail. The introductory session will also provide an overview of the body of theoretical and empirical work typically referred to as "economics of higher education."

Required reading:

- Toutkoushian, R. K. & Paulsen, M. B. (2016). Chapter 2: *Overview of economic reasoning and terminology*, p. 9-39.

Class 2: Human capital theory and signaling theory

Date & time: TBD

In this session, we will familiarize ourselves with the main argument and assumptions of human capital theory. Furthermore, we will discuss the two main approaches used in econometric studies to estimate the magnitude of returns to human capital investment: internal rate of return calculations and the Mincerian earnings function. We will briefly discuss signaling theory and compare and contrast the predictions of human capital theory and signaling theory pertaining to the relationship between higher education and earnings. We will discuss the implications of the two theories for public policy.

Required readings:

- Becker, G. (1993). Investment in human capital: Effects on earnings. In: Author, *Human capital: A theoretical and empirical analysis, with special reference to education*. Chicago: University of Chicago Press (3rd edition), p. 29-58.
- Peet, E. D., Fink, G., & Fawzi, W. (2015). Returns to education in developing countries: Evidence from the living standards and measurement study surveys. *Economics of Education Review*, 49, 69-90.

Recommended reading:

- Weiss, A. (1995). Human capital vs. signalling explanations of wages. *The Journal of Economic Perspectives*, 9(4), 133-154.

Class 3: Private and social benefits of higher education

Date & time: TBD

Human capital theory posits that individuals measure the expected costs of attaining higher education against the expected benefits. In this session, we will discuss positive individual and societal outcomes that research links to higher education attainment. We will also consider the extent to which the empirical evidence that links higher education attainment with private and public benefits supports a

causal interpretation, i.e. whether the evidence base allows us to conclude that higher education causes individuals and societies to realize various benefits.

Required readings:

- Toutkoushian, R. K. & Paulsen, M. B. (2016). Chapter 3. *Student investment in higher education*, p. 45-90.
- Toutkoushian, R. K. & Paulsen, M. B. (2016). Chapter 4: *Private and social returns to higher education*, p. 93-142.

Recommended reading:

- Hooghe, M., Dassonneville, R., & Marien, S. (2015). The impact of education on the development of political trust: Results from a five-year panel study among late adolescents and young adults in Belgium. *Political Studies*, 63(1), 123-141.

Class 4: The economic impact of higher education

Date & time: **TBD**

Higher education has been hypothesized to promote economic growth through a variety of channels, including crime reduction, knowledge spillover, and technology diffusion. In this session, we will discuss the conceptual foundations of the relationship between higher education and economic growth and consider empirical evidence on this matter. We will also discuss ways to measure the impact of higher education on local economic development.

Methods presentation: Panel data regression; fixed and random effects

Required readings:

- Alvi, S., & Ahmed, A. M. (2014). Analyzing the impact of health and education on total factor productivity: A panel data approach. *Indian Economic Review*, 49(1), 109-123.
- Valero, A., & Van Reenen, J. (2019). The economic impact of universities: Evidence from across the globe. *Economics of Education Review*, 68, 53-67.

Recommended reading:

- Nauffal, D. I. (2019). Measuring the economic impact of universities operating in unstable environments: The case of a private institution in Lebanon. *Higher Education Quarterly*, 73(3), 343-358.

Class 5: Individual and institutional benefits of higher education internationalization

Date & time: **TBD**

In this session, we will consider the economic and non-economic benefits associated with higher education internationalization. We will focus on the international mobility of students and workers, as well as on international collaborative partnerships in higher education. We will discuss econometric

approaches that can be used to evaluate the impact of internationalization activities on individuals and institutions.

Methods presentation: Instrumental variables

Required readings:

- Vila, L. E. (2000). The non-monetary benefits of education. *European Journal of Education*, 35(1), 21-32.
- Parey, M., & Waldinger, F. (2011). Studying abroad and the effect on international labor market mobility: Evidence from the introduction of ERASMUS. *Economic Journal*, 121(551), 194–222.

Recommended reading:

- Orosz, K., Proteasa, V., & Craciun, D. (2021). The use of instrumental variables in higher education research. In: Huisman, J. & Tight, M. (Eds.) *Theory and Method in Higher Education Research, Volume 6*. Emerald Publishing Limited, p. 61-80.

Class 6: Private and social costs of higher education

Date & time: **TBD**

Human capital theory posits that individuals invest in higher education if the expected benefits of higher education exceed the costs. In this session, we will discuss the types of costs individual incur when attaining higher education and how individuals pay for these costs. We will also discuss the role of governmental subsidy in higher education provision and will consider the evidence for competing theories of why the cost of higher education provision has been increasing in many countries.

Required readings:

- Toutkoushian, R. K. & Paulsen, M. B. (2016). Chapter 6: *The role of government in higher education*, p. 199-229.
- Bettinger, E. P., Long, B. T., Oreopoulos, P., & Sanbonmatsu, L. (2012). The role of application assistance and information in college decisions: Results from the H&R Block FAFSA experiment. *The Quarterly Journal of Economics*, 127(3), 1205-1242.

Class 7: Higher education production functions

Date & time: **TBD**

In this session, we will discuss frameworks that conceptualize higher education institutions as firms that produce outputs via three distinct types of activities: teaching, research, and service. We will discuss the concepts of economies of scale and economies of scope as they pertain to higher education production, and consider empirical evidence on changes in effectiveness and efficiency in higher education production over time.

Methods presentation: Stochastic frontier analysis

Required readings:

- Toutkoushian, R. K. & Paulsen, M. B. (2016). Chapter 8: *Competition and production in higher education*, p. 275-322.
- Agasisti, T. (2016). Cost structure, productivity and efficiency of the Italian public higher education industry 2001–2011. *International Review of Applied Economics*, 30(1), 48-68.

Class 8: Theories of organizational behavior in higher education

Date & time: TBD

In this session, we will discuss the theories of resource dependence, prestige maximization, and academic capitalism. These theories blend insights from microeconomics and organizational theory to explain revenue and expenditure patterns in higher education. We will discuss different ways in which higher education institutions may attempt to increase their revenue and will consider the external forces that may influence how the revenue gets expended.

Required readings:

- Archibald, R. B., & Feldman, D. H. (2008). Explaining increases in higher education costs. *The Journal of Higher Education*, 79(3), 268-295.
- Winston, G. C. (1999). Subsidies, hierarchy and peers: The awkward economics of higher education. *The Journal of Economic Perspectives*, 13(1), 13-36.

Class 9: Sociological perspectives on higher education attainment

Date & time: TBD

In this session, we will consider sociological perspectives that expand various assumptions of human capital theory. Moving beyond the role of costs, benefits, and information constraints, we will consider the influence of an array of societal forces on individuals' decision to attain higher education. We will discuss the concept of higher education stratification, positional competition, and the implications of these phenomena for individual and societal outcomes.

Methods presentation: Heckman selection correctionRequired readings:

- Caner, A., & Okten, C. (2013). Higher education in Turkey: Subsidizing the rich or the poor? *Economics of Education Review*, 35, 75-92.
- Marginson, S. (2019). Limitations of human capital theory. *Studies in Higher Education*, 44(2), 287-301.

Class 10: Higher education and the national skills training system

Date & time: TBD

In this session, we will discuss the concept of skill: a concept that combines insights from human capital theory, labor economics, and sociology. We will discuss the interrelated components of national skill

training systems and consider the implications of the structure of skills training systems on individual and societal outcomes. We will compare different measures of skill and discuss concepts of educational and skills (mis)match.

Required readings:

- Green, F. (2013). What is skill? In: Author, *Skills and skilled work: An economic and social analysis* (pp. 8-24). Oxford: Oxford University Press.
- Brown, P., & Souto-Otero, M. (2020). The end of the credential society? An analysis of the relationship between education and the labour market using big data. *Journal of Education Policy*, 35(1), 95-118.

Recommended reading:

- Tomić, I. (2014). Structural unemployment in Croatia: How important is the occupational mismatch? *Economic Research-Ekonomska Istraživanja*, 27(1), 346-365.

Class 11: Behavioral perspectives on higher education attainment

Date & time: TBD

Behavioral economics of education is an expanding field. There are many unsolved questions about education, some of which are difficult to grasp when seen within the neoclassical economic model: Why do so many students drop out of university after spending years there? What returns to do students expect from additional education? Are biases -- such as present bias, projection bias, statistical mistakes -- leading students to make systematic mistakes, in particular by underinvesting in education? The aim of this session is to give students a brief overview of the growing research in this area.

Required reading:

- Goldrick-Rab, S., Harris, D. N., & Trostel, P. A. (2009). Why financial aid matters (or does not) for college success: Toward a new interdisciplinary perspective. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (pp. 1-45). Dordrecht: Springer Netherlands.
- Marx, B. M. & Turner, L. J. (2019). Student loan nudges: Experimental evidence on borrowing and educational attainment. *American Economic Journal: Economic Policy*, 11 (2): 108-141.

Recommended reading:

- DellaVigna, S. (2009). Psychology and economics: Evidence from the field. *Journal of Economic Literature*, 47(2), 315-372.

Class 12: Overview of key concepts and application of lessons learned

Date & time: TBD

In the final session of the course, we will review the key concepts covered in the course. We will also reflect on current developments in higher education policy in different national contexts and consider to what extent the economic concepts covered in the course are helpful (or unhelpful) in understanding these developments.

Recommended reading:

- MDRC (2020). *Understanding what works in postsecondary education*.
<https://www.mdrc.org/publication/understanding-what-works-postsecondary-education>

ASSIGNMENT GUIDELINES

Guidelines for in-class methods presentations

Students who take the course for grade are required to give a 20 to 25-minute presentation on an econometric technique that is commonly used in research on higher education. Students will be randomly assigned to presentation groups, topics and dates in the second week of the course. Students are required to use PowerPoint / Prezi slides to illustrate their presentation. The group grade received on the in-class methods presentation will account for 40% of the final course grade.

Mandatory elements of the in-class methods presentations:

- Overview of key characteristics of the assigned econometric technique;
- Demonstration of the technique through a critical discussion of one relevant empirical study that focuses on a higher education-relevant topic;¹
- Discussion of the strengths and limitations of the technique for answering research questions related to higher education.

Optional elements of the in-class methods presentations (for extra credit):

- Discussion of how the technique can be implemented with a specific statistical software (e.g., STATA, SAS, R, Python NumPy, Pandas, etc.).

In-class methods presentations will be evaluated based upon:

- The extent to which they include each of the mandatory elements listed above;
- The quality of presentation (clarity of argumentation; formality of tone; visual appeal of presentation slides.)

¹ Student groups are required to share **a copy of the empirical study** with the course instructor at least **one week prior** to the date of their presentation. Empirical studies discussed in the methods presentation may not be selected from among the studies assigned as required readings for this course.

Guidelines for policy-focused term papers

At the end of the term, students are required to submit a four-page (max. 2000 words) term paper. In the term paper, students have the option to focus on a specific higher education policy in a national context of their choice.

The higher education policy must be connected to economic theories and concepts covered in class, and the topic of the paper (i.e., the higher education policy chosen) must be approved by the course instructor. **Topic proposals to the instructor are due by XXXX.**

Mandatory elements of the policy-focused term paper:

- Context-specific problem statement;
- Conceptual framework (explicitly tied to relevant theories / concepts discussed in class);
- Description of a specific higher education policy (characteristics, implementation, actual / expected outcomes);
- Discussion of relevant data and research on the policy and/or on similar policies in other contexts;
- Discussion of implications of relevant data and research for the specific policy, in the context in which it was / is being implemented.

Policy-focused term papers, just like empirical term papers, are due on XXXX by midnight. Late submission will result in the assignment grade being reduced by a grade step (e.g. an A can become an A-) every 24 hours starting from the deadline. The grade received on the policy-focused term paper will account for 40% of the final course grade.

All concepts, ideas and data sources used in the policy-focused term paper *must be properly attributed*. Policy-focused term papers must be submitted through the course's e-learning site. Term papers will be checked for originality with the Turnitin software.

Policy-focused term papers will be evaluated based upon:

- The extent to which they include each of the elements listed above;
- The extent to which they incorporate relevant theories and concepts covered in class;
- The breadth and relevance of data and research discussed;
- The quality of academic writing (clarity of argumentation; formality of tone; conciseness, proper attention to grammar, spelling and punctuation; proper and consistent use of a citation style.)

Guidelines for empirical term papers

At the end of the term, students are required to submit a four-page (max. 2000 words) term paper. In the term paper, students have the option to report on their own empirical research. The topic of the empirical research must be related to economic theories and concepts covered in class.

The topic of empirical term papers (including the data set that will be used for analysis) must be approved by the course instructor. **Topic proposals to the instructor are due by XXXX.**

Mandatory elements of the empirical term paper:

- Problem statement
- Definitions of key concepts / conceptual framework
- Research hypotheses
- Description of data used in the research; descriptive statistics of the analytic sample (including information on missingness)
- Model specification
- Regression output
- Interpretation of regression results
- Discussion of study findings and their limitations

Empirical term papers, just like policy-focused term papers, are due on XXXX by midnight. Late submission will result in the assignment grade being reduced by a grade step (e.g. an A can become an A-) every 24 hours starting from the deadline. The grade received on the empirical term paper will account for 40% of the final course grade.

All concepts, ideas and data sources used in the empirical term paper *must be properly attributed*. Empirical term papers must be submitted through the course's e-learning site. Term papers will be checked for originality with the Turnitin software.

Empirical term papers will be evaluated based upon:

- The extent to which they include each of the elements listed above;
- The extent to which they incorporate relevant theories and concepts covered in class;
- The quality of academic writing (clarity of argumentation; formality of tone; conciseness, proper attention to grammar, spelling and punctuation; proper and consistent use of a citation style.)