Department of Economics,   
American University of Central Asia

and

Resource Economics Group, Humboldt-Universität zu Berlin

Syllabus

Fall 2018 (September 17-21, 2018)

Course: Theoretical, experimental and empirical methods to study   
Socio-Ecological-Technical Systems in Central Asia

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| **Instructors:**  MSc. Beril Ocakli  Dr. Ulan Kasymov  Room: 215, Economics Program | **Office phone: ext. 470**  **Office hours:**  Before the classes or on agreement;  to make an appointment, please contact directly the respective lecturers.  **Email:**  [beril.ocakli@hu-berlin.de](mailto:beril.ocakli@hu-berlin.de)  kasymovu@agrar.hu-berlin.de |

**Course Description:** The course explores the potential of multiple-methods to provide valuable insights regarding Socio-Ecological-Technical Systems (SETS). It starts with an introduction on general concepts, empirical methodologies and methods applied in social sciences and economics aiming to study the complexity of human behaviour and the complex interactions within SETS.

The module draws on experimental economics and game theory to provide insights on the role of institutions and of behavioural aspects in solving problems of group externalities or social dilemmas, where the individual optimum clashes with the group optimum. Different types of games combined with the qualitative case studies are discussed, alongside, game design concepts and interpretation of empirical results.

During the final section of the course, AUCA students will help to organize an experiment supervised by instructors.

**Course objective:**

The overall aim of the course is to contribute to the advancement of the understanding of the complex interrelationships between ecological, social and technical systems with the focus on environmental governance.

**Number of credits:** 6

**Course Requirements and their weight in the final grade:**

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| The exam is in a form of a group assignment (100%)– that is composed of: |  |
| (1) A group project exploring one of the methods presented at the course, followed by the group work of the project and group discussion | 50% |
| (2) Individual writing assignment according to projects tasks | 50% |

**Prerequisites:**

Basic knowledge of qualitative and quantitative research methods.

**Required texts and additional reading:**

See the reading material related to each method below.

**Grading scale:**

“A” - above 85.5 “A-” - 85.0-80.5 “B+” - 75.5-80.0 “B” - 70.5-75.0

“B-” - 67.0-70

“C+” - 60.0-66.5 “C” - 55.0-59.5 “C-” - 50.0-54.5 “D” - 45.0-49.5

“F” - 45.0 and below

In Class Requirements and precondition to take part in the examination:

(1) Participation in the lectures

(2) Participation to practical (in the course) trainings

**STUDY SCHEDULE**

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| **Date & Topic** | **Reading materials** |
| 17.09.18 (Monday) | |
| **Welcome, introduction, course structure and organizational issues** |  |
| **Overview of social research strategies and methods analyzing SETS** | McGinnis M. D. and Ostrom E.(2014). Social-ecological system framework: initial changes and continuing challenges. *Ecology and Society* **19**(2): 30.  http://dx.doi.org/10.5751/ES-06387-190230  Ostrom E. (2009). A General Framework for Analyzing Sustainability of Social-Ecological Systems. *Science* **325** (5939), 419-422.  http://doi: 10.1126/science.1172133  Ostrom E. (2007). A diagnostic approach for going beyond panaceas. *Proceedings of the National Academy of Sciences* 104 (39):15181-15187.  http://dx.doi.org/10.1073/pnas.0702288104 |
| **Group formation** |  |
| 18.09.18 (Tuesday) | |
| **Game Theory: Introduction and main concepts** | **Binmore, K. (2007). Game Theory - Very Short Introduction. New York, Oxford University Press.** |
| **Experimental and Behavioral Economics** | **Henrich (2000): Does Culture Matter in Economic Behavior? Ultimatum Game Bargaining Among the Machiguenga of the Peruvian Amazon. *American Economic Review 90*(4): 973–979.**  **List, J. A. (Ed.). (2007): Using experimental methods in environmental and resource economics. Edward Elgar Publishing.** |
| 19.09.18 (Wednesday) | |
| **Employing experiments to study role of institutions in SETS** | **Baerlein, T., Kasymov, U., Zikos, D. (2015). Self-Governance and Sustainable Common Pool Resource Management in Kyrgyzstan. Sustainability, 7 (1): 496-521. DOI:10.3390/su7010496**  **Chidambaram, Janssen, Rommel & Zikos (2014). Commuters’ mode choice as a coordination problem: A framed field experiment on traffic policy in Hyderabad, India. Transportation Research Part A: Policy and Practice, 65, 9–22.**  **Kasymov and Zikos (2017). Understanding Human Actions and Institutional Change: What Are the Impacts of Power Asymmetries on Efficiency in Pasture Use?, *Resources,*  *6*(4), 71**  **Müller, Rommel & Kumrich (2016). Farmers’ Adoption of Irrigation Technologies: Experimental Evidence from a Coordination Game with Positive Network Externalities in India, G*erman Economic Review 19 (2): 119-139*** |
| 20.09.18 (Thursday) | |
| **Dictator game to study cooperation and conflicts in mining in Kyrgyzstan** |  |
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| 21.09.18 (Friday) | |
| **Organizing a field experiment** | Practical exercise |

**LIST OF PARTICIPANTS**

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| # | Name | Student ID | Contact |
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