

Green Macroeconomics

August 23- September 10

Lecturer

Eric Kemp-Benedict is a senior researcher at the Stockholm Environment Institute (SEI), based in SEI's US Centre near Boston, Massachusetts. With a PhD in physics, he publishes in economics, specializing in ecological and non-neoclassical macroeconomics. At SEI, he has worked on a variety of projects, whether as an economist or a modeler, including on water demand and supply, climate adaptation, and low-emission strategies. From 2013 to 2016, Dr. Kemp-Benedict was director of SEI's Asia Centre in Bangkok.

Course objectives

1. Distinguish between key assumptions in three macroeconomic traditions – Neoclassical, post-Keynesian, and Classical – and identify strengths and weaknesses of each;
2. Distinguish between accounting, behavioral, and closure rules in macroeconomic models;
3. Correctly use key ecological economic concepts, including material and energy throughput, thermodynamic constraints, energy return on energy investment (EROI) and related concepts, and the steady-state economy;
4. Manipulate simple classical models to draw insights about decarbonization scenarios and long-run growth prospects in a finite world.

Course content

The course will make use of the teaching module "[Green Macroeconomics: Growth and Distribution in a Finite World](#)". It will cover the following sections:

- Day 1
 - 1.1. Why Macroeconomics?
 - 1.2. Flows in the Economy
 - 1.3. The Functional Income Distribution
 - 1.4. The ABC Approach to Macroeconomics
 - 2.1. Constructing a Simple (Classical) Model of the Economy
- Day 2
 - 2.2. Investment and the Accumulation of Capital
 - 2.3. Capital and Labor Productivity
 - 3.1. Energy Return on Energy Invested (EROI) and Net External Power Ratio (NEPR)
- Day 3
 - 3.2. Climate Change
 - 4.1. Climate Change Mitigation (revised to reflect the US Green New Deal resolution)
 - 4.2. Macroeconomic Implications of Climate Mitigation
- Day 4
 - 3.3. Renewable Resources
 - 5.0-5.1 The Classical Model with Natural Resources
 - 5.4. Savings, Investment, and Accumulation of Capital

- Day 5
 - 5.5. Balanced Growth
 - 5.6. Saving, Distribution, and Growth
 - 6. Long-term Growth Prospects and the Steady State

Prerequisites

Both bachelor and master students can attend the course.

This course will make heavy use of algebra and may use some calculus. Because we will be moving quickly, you should come to the class feeling very comfortable with algebraic manipulation. Some knowledge of the natural sciences (chemistry, physics, biology, or ecology) is recommended for making sense of the “green” component of the class. Introductory courses in economics (micro and macro) are strongly recommended, although not strictly necessary.

Instructional methods

This will be a lecture-based **online course** supplemented by in-class discussion and short exercises.

Reading list

All students:

- Kate Raworth’s “[Doughnut Economics](#)” online article at *Humans and Nature*
- Rezai, Armon, and Sigrid Stagl. 2016. “Ecological Macroeconomics: Introduction and Review.” *Ecological Economics* 121 (January): 181–85.
<https://doi.org/10.1016/j.ecolecon.2015.12.003>.
- Chapter 1: Introduction of “[Green Macroeconomics: Growth and Distribution in a Finite World](#)”
- Pages 21-16 and pages 61-77 in the Eurostat manual “[Essential SNA: Building the basics](#)”

Master students only:

- Foley, Duncan K., and Thomas R. Michl. 2010. “The Classical Theory of Growth and Distribution.” In *Handbook of Alternative Theories of Economic Growth*, edited by Mark Setterfield, 49–63. Cheltenham, UK: Edward Elgar Publishing.
- Røpke, Inge. 2004. “The Early History of Modern Ecological Economics.” *Ecological Economics* 50 (3): 293–314. <https://doi.org/10.1016/j.ecolecon.2004.02.012>.
- Lavoie, Marc. 2012. “Perspectives for Post-Keynesian Economics.” *Review of Political Economy* 24 (2): 321–35. <https://doi.org/10.1080/09538259.2012.664356>.

Time schedule

- Week 1-3 (August 23 – September 10)
- 3 or 4 hours of teaching per day (a lecture hour lasts 45 minutes).
- Daily schedule: The exact time & zoom link will be provided in the moodle course after successful registration.

Assessment

- 1) Short exercises will be assigned and collected throughout the course.
- 2) There will be a final online exam at the end of week 3 (TBD), with separate exams for Bachelor and Master students.

Environmental Economics

August 23, 2021 – September 03, 2021

Lecturer: Prof. Stephan Kroll, Colorado State University (stephan.kroll@colostate.edu)
Course website: On Moodle

Course objectives

By the end of the course students should be able to

- understand how the core principles of economics apply to environmental issues
- comprehend the virtues and limitations of markets and allocations through prices
- appreciate the role of benefits and costs in (environmental) decision-making processes of individuals and societies
- understand that many environmental problems are due to wrongly set incentives

Course content

This course examines how environmental problems and their solutions can be modelled with microeconomic tools. We will talk about market failures, market solutions, and the incentives humans and societies face when making their decisions to degrade or to protect the environment, in particular air, water, climate and biodiversity. We will survey a) how to calculate the benefits and costs of environmental problems and policies, b) how benefit-cost analysis determines the optimal level of environmental quality (and why markets left to themselves usually do not generate that optimal level), and c) the economic principles behind different environmental policies. The main application is climate change and carbon mitigation policies. Throughout the module we will use economic experiments to highlight the role of incentives and institutions.

Prerequisites

- **Both bachelor and master students can participate.** Bachelor students must be at least in the second year of their bachelor studies and must have taken “Grundlagen der Mikroökonomik”.
- As the course is fully digital, the use of zoom and participation via video and audio is required throughout the whole course.

Instructional methods

Fully digital course with online lecture, videos plus economic experiments.

Reading list

We will mostly cover academic journal articles that are posted on the Moodle website; a list of topics and a list of articles for the Entrance Test are below.

For students that are interested in the topic and/or would like to have a basic textbook as background reading, Charles D. Kolstad, *Environmental Economics* (2nd edition. Oxford University Press. 9780199732647) is a suggested textbook. The first edition is available for sale on the internet and much cheaper than the second edition.

Time schedule

30 hours (an hour lasts 45 minutes, for a total of 1350 minutes).

Monday, August 23: 14-17:30 (14-15, 15:15-16:15, 16:30-17:30, 180 minutes)

Tuesday, August 24: 14-17:30 (180 minutes)

Wednesday, August 25: 14-17:30 (180 minutes)

Thursday, August 26: 14-15:30 (90 minutes)

Monday, August 30: 14-17:30 (180 minutes)

Tuesday, August 31: 14-17:30 (180 minutes)

Wednesday, September 1: 14-17:30 (180 minutes)

Thursday, September 2: 14-15:30 (90 minutes)

Plus 90 minutes of content on pre-recorded videos.

The zoom-link for the online lectures will be provided for the participants in the moodle course.

Assessment

40% Paper (in groups of 2 master or 2 bachelor students; due Fri., Sept. 10, 17h, on Moodle)

40% two homework assignments (due Monday, August 30, and September 6, at noon)

20% Six to eight short “reading quizzes” (3-5 brief questions about assigned daily readings)

Writing Assignment

For the Writing Assignment, please summarize an academic environmental economics article in a style that would fit into the magazine *Resources* (<https://www.resourcesmag.org/>), which is published by the environmental think tank Resources for the Future, based in Washington D.C. (<https://www.rff.org/>).

Choose a technical article or, better yet, a series of articles and summarize it/them in a non-technical yet sophisticated way. The typical reader of a *Resources* article is an intelligent non-economist with strong interests in environmental and natural resource topics.

The original article(s) you choose can be from academic peer-reviewed journals such as

- Journal of Environmental Economics and Management (<http://www.sciencedirect.com/science/journal/00950696>)
- Environmental and Resource Economics (<http://link.springer.com/journal/volumesAndIssues/10640>)

- Journal of the Association of Environmental and Resource Economists (<http://www.journals.uchicago.edu/toc/jaere/current>)
 - Ecological Economics (<http://www.sciencedirect.com/science/journal/09218009>)
- or other related journals.

The original article(s) should be

- recent (published in the last three years),
- technical (using either theoretical models or data analyses or both),
- original research (not an overview or survey article in itself),
- related to topics we cover in the class, but not an article from the reading assignments in class, and
- policy-relevant.

Your summary should be non-technical (for example, very few equations, if any; equations that are used and their variables should be explained carefully) and not use too much economics lingo, yet not written on a 5th-grade level either. The length should be around 1400 words (plus minus 300). You are encouraged to use graphs, which would not be counted toward the word limit. Examples of how original academic articles and their non-technical *Resources* summaries will be posted on Moodle. Two groups cannot choose the same articles.

Master students are expected to a) choose more technical academic articles, and b) indicate in a few sentences how the original paper could be improved/extended in a meaningful way.

TOPICS

- **How Economists See the Environment**
- **Market Experiments**
- **Basic Supply-Demand Model of Externalities and Policies**
- **Distributional Effects of Environmental Policies**
- **Public-Good Experiments**
- **The Public-Good Model of Environmental Problems and Policies**
- **Social Discounting**
- **Valuation of Environmental Improvement: Cost-Benefit Analysis, and WTP vs WTA**
- **Valuation Methods: Hedonics**
- **Valuation Methods: CVM**
- **Policies: Taxation**
- **Policies: Coase Bargaining**
- **Policies: Tradable Permits**
- **Policies: Comparison and Uncertainty**
- **Social Cost of Carbon**
- **Carbon Pricing**
- **International Environmental Agreements as Public Goods**
- **Economics of Geoengineering**

PAPERS FOR THE ENTRANCE EXAM:

Below are the papers you have to read in order to pass the Entrance Exam (all but one paper are five pages and less).

Additional papers will be posted several weeks before the summer school so that you are able to read them before the course starts.

Oates, Wallace (2006). An Economic Perspective on Environmental and Resource Management: An Introduction. In: Oates WE (Ed). The RFF reader in environmental and resource policy. Washington, DC: Resources for the Future, xv-xx.

Fullerton, Don and Robert Stavins (1998). How Economists See the Environment. *Nature* 395, 6701, 433-434.

Fischbacher, Urs, Simon Gächter and Ernst Fehr (2001). Are People Conditionally Cooperative? Evidence from a Public Goods Experiment. *Economics Letters* 71, 397-404.

Shogren, Jason F., Seung Y. Shin, Dermot J. Hayes, and James B. Kliebenstein (1994). Resolving Difference in Willingness to Pay and Willingness to Accept. *American Economic Review* 84/1, 255-270.

Carson, Richard T. (2000). Contingent Valuation: A User's Guide. *Environmental Science and Technology* 34, 1413-1418.

Harrington, Winston and Richard D. Morgenstern (2004). Economic Incentives versus Command-and-Control. *Resources* 152, 13-17.

International Sales Module

24th of August – 1st of September 2021

Lecturer



Professor William L. Cron

William Cron received a BSBA from Xavier University in Cincinnati and an MBA and DBA from Indiana University, Bloomington. Professor Cron has served on four editorial review boards including the Journal of Marketing and the Journal of the Academy of Marketing Science. He has published over 80 refereed marketing and sales management articles and manuscripts and has been recognized as one of the top ten sales and sales management researchers in the United States.

He has been invited to speak, conduct doctoral seminars, and/or teach graduate courses at a variety of universities, including internationally at Erasmus University in Rotterdam, Ruhr University in Germany, the University of Bern in Switzerland, Warrick University in Great Britain, Bacconi University in Italy, Wuhan University in China, Dijon University in France, Universidad Mayor in Chile, University of South Africa in South Africa, and at Technologico de Monterey in Mexico. He has also co-authored one of the leading sales management texts in the U.S. and Canada, *Sales Management: Concepts and Cases* (John Wiley & Sons, Inc.).

His graduate marketing courses have been recognized at four universities: Neeley School of Business, TCU, Wuhan University, China, Cox School of Business, SMU, and the Kelly School of Business, Indiana University.

Professor Cron has served on the Board of Directors of the American Marketing Association (Chairman of the Board); Midmark Corporation, (Chair of the Strategic Oversight and Nominating & Governance Committees); Park Plaza Medical (Lead Independent Director); Advanced Medical Supply; the AMA Foundation (President); Health Industry Distributors Association; the Healthcare Education Foundation; and the North Texas Chapter of the National Association of Corporate Directors (Chair of the Fort Worth Committee). In addition, he has consulted with a variety of health care companies such as Johnson and

Johnson Medical, Bristol-Myers Squibb, Physician Sales & Service, Inc., VHA Inc., and the Baylor Health System. His non-health care related consulting/executive development work has been with clients such as GTE, Samsung Electronics - America, Haggar Apparel Company, and Safeguard Business Systems.

Course objectives

In this course you will be a member of the executive team of a start-up organization and asked to make decisions typical for this level in an organization. You will formulate and defend a strategic vision for your firm and integrate the various functional areas so as to successfully implement this vision. Importantly, you will need to achieve your objectives within a set of financial constraints and imperatives, which will require you to make trade-offs in an effort to optimize your firm's performance. As a manufacturer of carbon fiber bicycles using 3D printing technology, you will be competing in a dynamic market and competitive environment. Not only will you formulate your firm's strategy, but will review and modify your strategy as needed, thereby gaining greater insight into what it feels like to be a member of the executive team of a firm.

Course content

Simulation

Rather than starting in the middle of the story (a mature firm), we use a venture situation to start at the beginning of the story. You will see how various tools and ways of thinking become useful as the firm expands its operations and must take on new tasks and responsibilities. In this way, the logic of our business practices will become more intuitive. Through computer simulation, you will be placed into a very realistic international business setting. You will be responsible for making decisions relating to all aspects of the business, including operations, forecasting, marketing, IT, accounting, finance, supply chain management, e-business, HR, social media, and so on.

You will be competing against other start-up companies in the same industry. The consequences of your decisions are quickly revealed in the simulated marketplace. Players learn to adjust their strategy to become stronger competitors by studying end-user opinions, smart competitive moves, and their own operational and financial performance. Over the course of the entire exercise, your understanding of the linkages among the functional areas of business will grow at an exponential rate.

The learning strategy is to gradually build the business and thus, gradually introduce new issues, which must be mastered by you and the other players. Each quarter or decision period has a dominant activity and a set of decisions, which are linked to it. These dominant activities take you through the business life cycle from start-up, to development, to growth, and ultimately to near maturity. As you work through the business life cycle, new decisions and managerial content are phased in as they become relevant to the current decisions.

Each quarter's activities result in new material not only being introduced, but also builds on the prior content so that there is considerable repetition. Business activities such as cash flow planning, value creation in product design, production scheduling, profitability analysis, and strategic planning require repetitive exercise in order to set them into your natural thinking.

Here is a list of what you will do:

- Analyze market research data
- Plan and roll out a marketing campaign
- Design and price brands to appeal to different market segments
- Select and develop distribution channels

- Devise advertising, search engine, and social media marketing campaigns
- Allocate scarce funds to R&D, manufacturing, advertising, and distribution
- Select and prioritize R&D projects, leading to new product features
- Negotiate strategic partnerships with competitors for new technology
- Initiate and defend lawsuits over false advertising
- Hire employees and set competitive compensation packages
- Schedule production and manage plant capacity
- Manage cash
- Negotiate equity and debt financing for new business development
- Compete head-to-head with other business teams
- Adjust strategy and tactics in response to operational and financial performance, competitive tactics, and customer needs

The specific goal of the exercise is to develop your management skills by giving you an integrated perspective of the entire business operation. In terms of specifics:

- Develop strategic planning and execution skills within a rapidly changing environment
- Crystallize the linkages between business decisions and financial performance
- Instill a bottom line focus and the simultaneous need to deliver customer value
- Internalize how important it is to use market data and competitive signals to adjust the strategic plan and more tightly focus business tactics
- Develop teamwork across functions, opening up new communication links
- Promote better decision-making by helping you see how your decisions can affect the performance of others and the organization as a whole
- Facilitate learning of important business concepts, principles, and ways of thinking
- Experience the challenges and rewards of the entrepreneur by starting up and running a new business venture
- Build confidence through knowledge and experience

Chronology of Events

Here is a brief overview of the activities that the players will undertake by quarter:

Quarter 1: invest personal savings to start up the company, organize the team into functional responsibilities, analyze market research, establish the firm's strategic direction and set up shop (build a plant, design brands and open sales outlets).

Quarter 2, 3: test market brands, prices, ad copy, advertising campaigns, sales staffing, and compensation package. Study the market's response, competitive tactics, your own operational and financial performance, and make adjustments in strategy.

Quarter 4: prepare a business plan and obtain a second round of financing from venture capitalists.

Quarter 5, 6: undertake an international rollout campaign based upon the business plan. Adjust the strategy to market opinion, competitive tactics, and operational and financial performance.

Quarter 7: prepare a Final Team Report regarding 1) the firm's performance to date, 2) departures from business plan and justification, 3) the firm's preparation for future competition, and 4) lessons learned.



Team Effort

You will team with four other students to form an entrepreneurial firm that will compete in a "business war game." During the course, you will take your fledgling business through the natural stages of business growth, including emergence, development, and maturity. Along the way, you will learn to develop and refine your strategies and tactics.

Role on the Executive Team

Management of your firm will be a challenging task. Successful firms divide up the responsibility and share the workload. You will need to take on one or two of the following roles:

- VP Marketing
- VP Sales Management/Human Resources
- VP Business Analytics
- VP Manufacturing
- VP Finance and Accounting

The team selects one person to lead the team, the president. This person can also take on the human resource management position or possibly one of the other positions listed above.

Prerequisites

This is a masters only course and there is a participation limit of 25 people since that is the upper limit of the simulation software.

You will be assigned to a team of 5 people. Prior to the beginning of the class you will receive a License Number and Game Number to register for the simulation at <https://game.ilsworld.com>.

Instructional methods

Skills Assessment (15%)

After submitting decisions for Quarter 5, you will be asked to answer objective questions regarding the simulation online using a customized objective learning assessment (COLA) tool created specifically for the simulation. This exercise is designed to test (1) your knowledge of your business in terms of marketing, manufacturing, human resources, and financial and accounting information; (2) your ability to use the tools of management to understand your current position in the market; and (3) your ability to develop an integrative perspective of your business. The test should take between 30–50 minutes. You will have an hour to take the test, which is delivered online via the Marketplace simulation. You will not have access to the simulation while the assessment is underway. Results will be made available after the Quarter 5 decisions are processed.

Final Team Report (15%)

The purpose of this presentation is to review your performance and discuss the lessons learned through doing the simulation. This presentation will be made to the faculty and class. Your team's presentation will take no longer than 15 minutes in total plus 5 minutes for questions and answers. Your presentation should consist of information demonstrating that you understood what factors affected the industry and your company's performance. Teams that are better able to explain their performance in the context of the simulation will likely do better.

In the Appendix please find details regarding this presentation under The Report to Board of Directors and Team Presentation to Board Rubric for grading of the presentation.

Peer Evaluations (10%)

You will be asked to complete a peer evaluation online by 2:00 p.m. on Saturday. Instructions to access the peer evaluation in the simulation will be provided.

Given the structure of this class, you are expected to attend and participate in all group decision-making and attend all class sessions, including the presentations on Saturday. Most of your participation will be within your groups, e.g., making decisions, debating strategy, analyzing results, preparing your presentation. Accordingly, I will seek feedback at the conclusion of the course from your team members regarding the quality of your participation.

See “Team Member Evaluations” in Appendix for questions asked in peer evaluations.

Computation of Simulation Performance (60%)

A Balanced Scorecard will be used to measure your firm’s performance. The team’s total business performance will be based upon its financial performance, marketing effectiveness, market performance, manufacturing productivity, human resource management, investments in the firm’s future, asset management, creation of wealth, and financial risk. A total score will be computed for each firm.

In the simulation, you will receive each quarter a cumulative balanced scorecard report which is an average of the previous quarters. More recent performance tends to be more heavily weighted. For example, a strong performance in quarters five or six will typically influence the balanced scorecard more than a strong performance in quarter three. Your simulation performance will be judged by your firm’s cumulative balanced scorecard at the end of quarter six.

At the end of the exercise, each team will be ranked in the order of performance for the total score. A letter grade will be assigned depending upon the best performing team’s BSC score vis-à-vis all other teams that have competed in the simulation, ranking within the course, and how close it is to the team(s) BSC above or below it.

Reading list

All the reading takes place within the simulation, e.g., help files and microsimulations.

Time schedule

Simulation Schedule

Prior to the first class on Tuesday, August 24:

- You will receive a License Number to register for the simulation.
- Register online and explore Marketplace (instructions will be emailed to you)
- View the material in the moodle class
- In the simulation be sure and read the information under the Help File tab (upper right hand side of the screen) for important information on Venture Strategy - Bikes simulation at <https://game.ilsworld.com/>.
- You will also find it most helpful to go through all the material associated with the Decision tabs on the left hand side of the screen paying particular attention to the Lecture tabs associated with each decision.

Day 1 – Tuesday, August 24

Morning

Lectures:

Quarter 1 Overview (5 minutes)
Build a Plant (5 minutes)
Design Brands (10 minutes)
Distribution Channels (10 minutes)

Help Files

Brand Design
Internet Marketing
Sales Territory Development
Production Capacity

5:00 p.m.

Q1 Decisions due

Day 2 – Wednesday, August 25

Morning

Lectures

Quarter 2 Overview (5 minutes)
Setting Prices (10 minutes)
Advertising Decisions (10 minutes)
Human Resources & Operations (10 min.)
Sales Force Management (10 minutes)

Help Files

Brand Price
Sales Force Management
Advertising Decisions
Forecasting Demand & Production Scheduling
Accounting & Cash Flow

5:00 p.m.

Q2 Decisions due

Day 3 – Thursday, August 26

Morning

Lecture

Quarter 3 Overview (10 minutes)

1 p.m. Start

Team Briefing

Meetings: (15-minute time slots)

5:00 p.m.

Q3 Decisions due

Day 4 – Friday, August 27

Morning

Lecture

Quarter 4 Overview
Technology Licensing

Help Files

Preparing a Tactical Plan
Preparing Pro Forma Financials

3 p.m. Start

Team Briefing

Meetings: (15-minute time slots)

7:00 p.m.

Q4 decision due

Day 5 – Monday, August 30

1 – 2:00 p.m.	Skills Assessment	Classroom to be determined.
5:00 p.m.	Q5 decisions due	

Day 6 – Tuesday, August 31

5:00 p.m.	Q6 Decisions due	
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Day 7 – Wednesday, September 01

Morning	Work on Team Presentation	
1:00 – 2:30 p.m.	Team Presentation to Stakeholders	
5:00 p.m.	Peer Evaluations due (instructions to access peer evaluations will be provided)	

Your company will be fined \$100,000 for every minute that a decision is late. For example, if you submit a decision at 5:33 p.m. for Q2, a \$300,000 fine will be deducted from your cash balance. Remember, you can always submit your decision early!

Assessment

Grading

Skills Assessment	15%
Final Team Report.....	15%
Peer Evaluation	10%
Simulation Performance	60%
Total	100%

Bargaining: Theory and Experiments (BSc, MSc)

August 23- September 03

Lecturer

Dr Emin Karagözoğlu (Associate Professor of Economics, Department of Economics, Bilkent University, Ankara, Turkey).

Course objectives

Our objective is to introduce students the key concepts in bargaining, major approaches used in modeling/studying bargaining (e.g., cooperative and noncooperative game theory, experimental economics, and behavioral economics), interactions between these approaches, special topics in bargaining, and future directions in bargaining research.

Course content

The following is a provisional schedule. The course starts with an emphasis on the importance of the study of negotiations from different perspectives. Then, we first introduce the key ingredients of a simple bargaining problem. Later, we introduce two major theoretical approaches used to study bargaining problems in economics: cooperative game theoretical (or axiomatic) and noncooperative game theoretical approach. After that, we study the most well-known models as well as some extensions and special topics in bargaining in this theoretical framework. In the second part of the course, we focus on experimental and behavioral approaches to study bargaining problems. Here, we will start with early bargaining experiments, investigate various types of bargaining protocols frequently used in experimental work, and again look at special topics (e.g., fairness, focal points, first offers, unstructured bargaining, stake-size effects, time pressure, joint production etc.). In the final part of the course, we focus on topics we think should and will be studied by bargaining scholars more in the years to come.

Prerequisites

An introductory/intermediate level of knowledge in microeconomic theory and game theory. All the formal concepts that are used in the course will be defined, explained, and discussed during the course. The course is open to both BSc and MSc students.

Instructional methods

Fully digital course with online lectures, in-class experiments/surveys, online video material, and discussions.

Time schedule

- Weeks 1 and 2 (23.08.2021 – 03.09.2021)
- 3 or 4 hours of teaching per day (a lecture hour lasts 45 minutes).
- Daily schedule: The exact time & zoom link will be provided in the moodle course after successful registration.

Assessment

Essay for both BSc and MSc students. There will be either additional questions or more demanding length requirements for MSc students. **Due date of the essay will be 10.09.2021.**

Reading list

There is a rich reading list for the course. Readings are classified as required and optional. To benefit from the course and lectures to the greatest possible extent, students **should** read the required ones. The optional readings are to complete your understanding and serve as an extended bibliography. It would be good if you **try to** read them as well.

THEORY

Axiomatic/Cooperative Bargaining Theory:

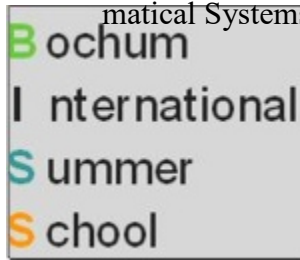
Required Readings

- Kıbrıs, Ö. (2010) Cooperative game theory approaches to negotiations. In Handbook of Group Decision and Negotiation, Advances in Group Decision and Negotiation, Volume 4, 151-166
- Kalai, E. (1977) Proportional solutions to bargaining situations: Interpersonal utility comparisons. *Econometrica*, 45(7), 1623-1630.
- Kalai, E. and M. Smorodinsky (1975) Other solutions to Nash's bargaining problem. *Econometrica*, 43(3), 513-518.
- Nash, J. F. Jr. (1950) The bargaining problem. *Econometrica*, 18(2), 155-162.

Optional Readings

- Anbarcı, N. and J. P. Bigelow (1994) The area monotonic solution to the cooperative bargaining problem. *Mathematical Social Sciences*, 28, 133-142.
- Balakrishnan, P. V., Gomez, J. C., and R. V. Vohra (2011) The tempered aspirations solution for bargaining problems with a reference point. *Mathematical Social Sciences*, 62(3), 144-150.
- Chun, Y. (1988) The equal-loss principle for bargaining problems. *Mathematical Social Sciences*, 26, 103-106.
- Chun, Y. and W. Thomson (1992) Bargaining problems with claims. *Mathematical Social Sciences*, 24, 19-33.
- Gupta S. and Z. A. Livne (1988) Resolving a conflict situation with a reference outcome: an axiomatic model. *Management Science*, 34(11), 1303-1314.
- Karagözoğlu, E., Keskin, K. and E. Özcan-Tok (2019) Between anchors and aspirations: A new family of bargaining solutions. *Review of Economic Design*, 23(1-2), 53-73.
- Karagözoğlu, E. and S. Rachmilevitch (2017) Duality, area considerations, and the Kalai-Smorodinsky solution. *Operations Research Letters*, 45(1), 30-33.
- Karagözoğlu, E. and E. Özcan-Tok (2018) Iterated egalitarian compromise solution to bargaining problems and midpoint domination. *Operations Research Letters*, 46(3), 282-285.
- Roemer, J. (1986) The mismatch of bargaining theory and distributive justice. *Ethics*, 97, 88-110.
- Roemer, J. (1988) Axiomatic bargaining theory on economic environments. *Journal of Economic Theory*, 45, 1-31.

- Roth, A. E. (1979) *Axiomatic Models of Bargaining*. Lecture Notes in Economics and Mathematical Systems #170, Springer Verlag.



Non-Cooperative Bargaining Theory:

Required Readings

- Baron, D. P. and J. A. Ferejohn (1989) Bargaining in legislatures. *American Political Science Review*, 83(4), 1181-1206.
- Güth, W., Schmittberger, R. and B. Schwarz (1982). An experimental analysis of ultimatum bargaining. *Journal of Economic Behavior and Organization*, 3(4), 367-88.
- Nash, J. F. Jr. (1953) Two person cooperative games. *Econometrica*, 21(3), 128-140.
- Rubinstein, A. (1982) Perfect equilibrium in a bargaining model. *Econometrica*, 50(1), 97-110.

Optional Readings

- Chatterjee, K. (2010) Noncooperative bargaining theory. *Handbook of Group Decision and Negotiation, Advances in Group Decision and Negotiation, Volume 4*, 141-149.
- Muthoo, A. (2000) A non-technical introduction to bargaining theory. *World Economics*, 1-2, 145-166.
- Osborne, M. J. and A. Rubinstein (1990) *Bargaining and Markets*. Academic Press.
- Roth, A. E. (1985) *Game Theoretic Models of Bargaining*. Cambridge University Press.
- Sutton, J. (1986) Non-cooperative bargaining theory: An introduction. *Review of Economic Studies*, 53(5), 709-724.

The Nash Bargaining Game, The Nash Bargaining Solution, and the Nash Program

Required Readings

- Anbarcı, N. (2001) Divide-the-dollar game revisited. *Theory and Decision*, 50(4), 295-304.
- Ashlagi, I., Karagözoğlu E., and B. Klaus (2012) A non-cooperative support for equal division in estate division problems. *Mathematical Social Sciences*, 63(3), 228-233.
- Brams, S. J. and A. E. Taylor (1994) Divide the dollar: Three solutions and extensions. *Theory and Decision*, 37(2), 211-231.
- Cetemen, E. D. and E. Karagözoğlu (2014) Implementing equal division with an ultimatum threat. *Theory and Decision*, 77(2), 223-236.
- Karagözoğlu, E., Keskin, K., and Sağlam, Ç. (2021) (In)efficiency and Equitability of Equilibrium Outcomes in a Family of Bargaining Games, *working paper*.
- Serrano R. (2020) Sixty-seven years of the Nash program: time for retirement? *SERIEs*, forthcoming.

Optional Readings

- Abreu, D. and D. Pearce (2015) A dynamic reinterpretation of Nash bargaining with endogenous threats. *Econometrica*, 83, 1641-1655.
- Karagözoğlu, E. and S. Rachmilevitch (2018) Implementing egalitarianism in a class of Nash demand games. *Theory and Decision*, 85, 495-508.
- Rachmilevitch S (2017) Punishing greediness in divide-the-dollar games. *Theory and Decision*, 82, 341-351.
- Rachmilevitch S. (2020) Rewarding moderate behavior in a dynamic Nash demand game. *International Journal of Game Theory*, 49, 639-650.

EXPERIMENTS

Early Bargaining Experiments: Nash bargaining, Ultimatum Game, Alternating Offers Bargaining

Required Readings

- Binmore, K., Shaked, A., and J. Sutton (1985). Testing noncooperative bargaining theory: A preliminary study. *American Economic Review*, 75(5), 1178-1180.
- Güth, W., Schmittberger, R. and B. Schwarz (1982). An experimental analysis of ultimatum bargaining. *Journal of Economic Behavior and Organization*, 3(4), 367-88.
- Nydegger, R. V. and G. Owen (1975). Two person bargaining: An experimental test of the Nash axioms. *International Journal of Game Theory*, 3(4), 239-349.

Special Topics:

Fairness/Justice/Social Image Concerns/Biases:

Required Readings

- Babcock, L., and G. Loewenstein (1997). Explaining bargaining impasse: the role of self-serving biases. *Journal of Economic Perspectives*, 11(1), 109-126.
- Babcock, L., Loewenstein, G., Issacharoff, S., and C. Camerer (1995). Biased judgments of fairness in bargaining. *American Economic Review*, 85(5), 1337-1343.
- Forsythe, R., Horowitz, J. L., Savin, N. E., and M. Sefton (1994). Fairness in simple bargaining experiments. *Games and Economic Behavior*, 6(3), 347-369.
- Hoffman, E. and M.L. Spitzer (1985). Entitlements, rights, and fairness: An experimental examination of subjects' concepts of distributive justice. *Journal of Legal Studies*, 14(2), 259-97.

Optional Readings

- Bazerman, M. H. (1985). Norms of distributive justice in interest arbitration. *Industrial Labor Relations Review*, 38(4), 558-570.
- Birkeland, S. and B. Tungodden (2014) Fairness motivation in bargaining: A matter of principle. *Theory and Decision*, 77, 125-51.
- Bereby-Meyer, Y. and M. Niederle. (2005). Fairness in bargaining. *Journal of Economic Behavior and Organization*, 56, 173-186.
- Buchan, N., Croson, R. T., and E. J. Johnson (2004). When do fair beliefs influence bargaining behavior? Experimental bargaining in Japan and the United States. *Journal of Consumer Research*, 31(June), 181-190.
- Harrison, G. W. and K. A. McCabe (1996). Expectations and fairness in a simple bargaining experiment. *International Journal of Game Theory*, 25(3), 303-327.
- Zwick, R. and X-P Chen (1999). What price fairness? A bargaining study. *Management Science*, 45(6), 804-823.

Reference/Focal Points:

Required Readings

- Bolton, G. E. and E. Karagözoğlu (2016) On the influence of hard leverage in a soft leverage bargaining game: The importance of credible claims. *Games and Economic Behavior*, 99, 164-179.
- Gaechter, S. and A. Riedl (2005). Moral property rights in bargaining with infeasible claims. *Management Science*, 51(2), 249-263.
- Isoni, A., Poulsen, A., Sugden, R., and K. Tsutsui (2013). Focal points in tacit bargaining situations: Experimental evidence. *European Economic Review*, 59, 167-188.
- Isoni, A., Poulsen, A., Sugden, R., and K. Tsutsui (2014). Efficiency, equality, and labelling: An experimental investigation of focal points in explicit bargaining. *American Economic Review*, 104(10), 3256-3287.

Optional Readings

- Huyck, J. Van, Battalio, R., Mathur, S., Huyck, P. Van, and A. Ortmann (1995). On the origin of convention: Evidence from symmetric bargaining games. *International Journal of Game Theory*, 24(2), 187-212.
- Janssen, M. (2006). On the strategic use of focal points in bargaining situations. *Journal of Economic Psychology*, 27(5), 622-634.
- Roth, A. E. (1985). Toward a focal-point theory of bargaining. In *Game-Theoretic Models of Bargaining*, Chapter 12, 259–268, Cambridge University Press.

First Offers in Bargaining:

Required Readings

- Galinsky, A. D. and T. Mussweiler (2001). First offers as anchors: The role of perspective taking and negotiator focus. *Journal of Personality and Social Psychology*, 81(4), 657–669.
- Schweinsberg, M., Ku, G., and M. Pillutla (2012). Starting high and ending with nothing: The role of anchors and power in negotiations. *Journal of Experimental Social Psychology*, 48(1), 226-231.

Optional Readings

- Galinsky A. D., G. Ku, and T. Mussweiler (2009). To start low or to start high? The case of auctions versus negotiations. *Current Directions in Psychological Science*, 18(6), 357–361.
- Park, S., G. E. Bolton, L. Rothrock, and J. Brosig (2010). Towards an interdisciplinary perspective of training intervention for negotiations: Developing strategic negotiation support contents. *Decision Support Systems*, 49(2), 213–221.
- Oech, J. and A. Galinsky (2003). First offers in negotiations: Determinants and effects. unpublished manuscript.
- Orr, D. and C. Guthrie (2006). Anchoring, information, expertise, and negotiation: New insights from meta-analysis. *Ohio State Journal on Dispute Resolution*, 21(3), 597–628.

Time-Pressure and Deadlines:

Required Readings

- Alberti, F., S. Fischer, W. Güth, and K. Tsutsui (forthcoming) Concession bargaining: An experimental comparison of protocols and time horizons. *Journal of Conflict Resolution*.
- Karagözoğlu, E. and M. G. Kocher (2019) Bargaining under time pressure from deadlines. *Experimental Economics*, 22(2), 419-440.
- Roth, A. E., Murnighan, K., and F. Schoumaker (1988) The Deadline Effect in Bargaining: Some Experimental Evidence. *American Economic Review*, 78(4), 806-823.
- Sutter, M., M. Kocher, and S. Strauss (2003) Bargaining under time pressure in an ultimatum game. *Economics Letters*, 81, 341–347.

Optional Readings

- Cappelletti, D., Güth, W., and M. Ploner (2011) Being of two minds: Ultimatum offers under cognitive constraints. *Journal of Economic Psychology*, 32, 940–950.
- Güth, W., M. V. Levati, and B. Maciejovsky (2005) Deadline effects in sequential bargaining: An experimental study. *International Game Theory Review*, 7, 117–135.
- Lim, S. A. and K. J. Murnighan (1994) Phases, deadlines, and the bargaining process. *Organizational Behavior and Human Decision Processes*, 58, 153–71.

Stake Size Effects:

Required Readings

- Karagözoğlu, E. and Ü. B. Urhan (2017). The effect of stake size in experimental bargaining and distribution games: A survey. *Group Decision and Negotiation*, 26(2), 285-32

Optional Readings

- Andersen, S., Ertaç, S., Gneezy, U., Hoffman, M. and A. J. List (2011). Stakes matter in ultimatum games. *American Economic Review*, 101(7), 3427–3439.
- Cameron, L. A. (1999). Raising the stakes in the ultimatum game: Experimental evidence from Indonesia. *Economic Inquiry*, 37(1), 47-59.
- Munier, B. and C. Zaharia (2003). High stakes and acceptance behavior in ultimatum bargaining. *Theory and Decision*, 53(3), 187-207.
- Slonim, R. and A. E. Roth (1998). Learning in high stakes ultimatum games: An experiment in the Slovak Republic. *Econometrica*, 66(3), 569–96.
- List, J. A. and T. L. Cherry (2000). Learning to accept in ultimatum games: Evidence from an experimental design that generates low offers. *Experimental Economics*, 3(1), 11-29.
- List, J. A. and T. L. Cherry (2008). Examining the role of fairness in high stakes allocation decisions. *Journal of Economic Behavior and Organization*, 65(1), 1-8.

FUTURE DIRECTIONS

Bargaining with Production/Investment and Bargaining over Contracts:

Required Readings

- Gantner, A., Güth, W., and M. Königstein (2001). Equitable choices in bargaining games with joint production. *Journal of Economic Behavior and Organization*, 46(2), 209-225.
- Karagözoğlu, E. (2012). Bargaining with Joint Production. Chapter 24 in *Oxford Handbook of Economic Conflict Resolution* (eds. Gary E. Bolton and Rachel Croson), Oxford University Press, New York.

Optional Readings

- Karagözoğlu, E. and A. Riedl (2015). Performance information, production uncertainty and subjective entitlements in bargaining. *Management Science*, 61(11), 2611-2626.
- Cherry, T. L., P. Frykblom, J. F. Shogren (2002) Hardnose the dictator. *American Economic Review*, 92(4), 1218–1221.
- Bolton, G. E. and E. Karagözoğlu (2016) On the influence of hard leverage in a soft leverage bargaining game: The importance of credible claims. *Games and Economic Behavior*, 99, 164-179.
- Cappelen, A. W., A. D. Hole, E. Ø. Sørensen, B. Tungodden (2007) The pluralism of fairness ideals: an experimental approach. *American Economic Review*, 97(3), 818–827.
- Cappelen, A. W., E. Ø. Sørensen, B. Tungodden (2010) Responsibility for what? fairness and individual responsibility. *European Economic Review*, 54(3) 429–441.
- Franco-Watkins, A. M., Edwards, B. D., and Acuff Jr, R. E. (2013) Effort and fairness in bargaining games. *Journal of Behavioral Decision Making*, 26, 79–90.
- Luhan, W., O. Poulsen, and M. Roos (2019) Money or morality: fairness ideals in unstructured bargaining. *Social Choice and Welfare*, 53(4), 655-675.
- Merkel, A. and C. Vanberg (2019) Legislative bargaining with joint production: An experimental study, *working paper*.
- Rode, J. and M. Le Menestrel (2011). The influence of decision power on distributive fairness. *Journal of Economic Behavior and Organization*, 79(3), 246-255

Unstructured Bargaining:

Required Readings

- Alberti, F., S. Fischer, W. Güth, and K. Tsutsui (forthcoming) Concession bargaining: An experimental comparison of protocols and time horizons. *Journal of Conflict Resolution*.
- Camerer, C., Nave, G., and Smith, A. (forthcoming) Dynamic unstructured bargaining with private information and deadlines: Theory and experiment. *Management Science*.
- Karagözoğlu, E. (2019) On “Going Unstructured” in Bargaining Experiments. In *Future of Economic Design*, Springer Series in Economic Design.

Optional Readings

- Bolton, G. E. and E. Karagözoğlu (2016) On the influence of hard leverage in a soft leverage bargaining game: The importance of credible claims. *Games and Economic Behavior*, 99, 164-179.
- Gaechter, S. and A. Riedl (2005). Moral property rights in bargaining with infeasible claims. *Management Science*, 51(2), 249-263.
- Güth, W. (2012). Bargaining and Negotiations What should experimentalists explore more thoroughly? Chapter 17 in *Oxford Handbook of Economic Conflict Resolution* (eds. Gary E. Bolton and Rachel Croson), Oxford University Press, New York.
- Karagözoğlu, E. and A. Riedl (2015). Performance information, production uncertainty and subjective entitlements in bargaining. *Management Science*, 61(11), 2611-2626.
- Tramewan, J. and Vanberg, C. (2020) Effects of decision rules in an unstructured multilateral bargaining experiment, *working paper*.

Bargaining in Online Platforms / Large Data Sets / Empirics:

Required Readings

- Backus, M., Blake, T., Larsen, B., and Tadelis, S. (2020) Sequential Bargaining in the Field: Evidence from Millions of Online Bargaining Interactions. *Quarterly Journal of Economics*, 135(3), 1319-1361.

Optional Readings

- Backus, M., Blake, T., and Tadelis, S. (2019) On the Empirical Content of Cheap-Talk Signaling: an Application to Bargaining. *Journal of Political Economy*, 127(4), 1599-1628.
- Backus, M., Blake, T., Pettus, J., and Tadelis, S. (2021) Communication and Bargaining Breakdown: An Empirical Analysis, *working paper*.
- Chu, J., Manchanda, P., and Zhang X. (2021) Meet Me Halfway: The Value of Bargaining. Forthcoming at *Marketing Science*.
- Camerer, C., Nave, G., and Smith, A. (forthcoming) Dynamic unstructured bargaining with private information and deadlines: Theory and experiment. *Management Science*.
- Jiang, Z. (2021) An Empirical Bargaining Model with Left-Digit Bias: A Study on Auto Loan Monthly Payments. Forthcoming at *Management Science*.

Online Material

Werner Güth's plenary speech at 2012 ESA World Meeting.

Link: <http://www.youtube.com/watch?v=-vtTKFDXQI0>

Behavioral Economics

23 August - 27 August

Lecturer

Dr. Wolfgang J. Luhan (Principal Lecturer in Economics, Head of the Experimental Research Laboratory, Faculty of Business and Law, University of Portsmouth, UK).

Course objectives

The objective is to give an introduction to key concepts, insights, and findings from recent research on preference, choices, behavioral patterns and rationality. By the end of the course students should be able to

- contrast the approaches and predictions of standard economic versus behavioral models.
- understand the underlying structures driving human behavior in economic situations.
- appraise appropriate methods to identify and study observed behavioral phenomena.

Course content

The following is a provisional schedule. The exact content and the sequence in which the content will be covered can change.

The course first describes the various motivations (such as self-interest, reciprocity, altruism, and competitiveness) that have been found to be important in a variety of economic and social situations. We will consider several topics within the area of behavioral economics, such as the economic role played by loss aversion, the way people evaluate the future relative to the present, and various biases and heuristics that have been found to influence behavior in many economic and

Prerequisites

Both bachelor and master students can attend the course. Bachelor students should be at least in their second year of their study and must have completed introductory to intermediate microeconomics and macroeconomics. All the concepts that are used in the course will be defined, explained, and discussed during the course.

This course will be taught fully online, the use of zoom and participation via *video and audio* will be required throughout the course.

Instructional methods

Digital course with online lectures, participation in experiments, and discussions.

Reading list

Required (= additionally required for Master students)*

New Economics Foundation (2005): Behavioural Economics. Available at:
<https://neweconomics.org/2005/09/behavioural-economics>

*Camerer, C., Babcock, L., and Loewenstein, G. (1997): “Labor Supply of New York City Cabdrivers: One Day at a Time”, *Quarterly Journal of Economics*, 112 (2), p. 407-41.

*Gneezy, U., & Rustichini, A. (2000). A fine is a price. *The Journal of Legal Studies*, 29(1), p. 1-17.

*Fehr, E. and Gächter, S. (2000): “Fairness and Retaliation: The Economics of Reciprocity”, *The Journal of Economic Perspectives*, 14 (8), p. 159-181.

Optional:

*Andreoni, J. (2001): “The Economics of Philanthropy“, in *International Encyclopedia of Social and Behavioral Sciences*, Smeltser, N. and Baltes, P. (eds), p. 11369-11376. Elsevier: Oxford.

Bernatzi, S. and Thaler, R. (2004): “Save More Tomorrow™: Using Behavioral Economics to Increase Employee Saving”, *Journal of Political Economy*, 2004, 112 (1), p. 164-187.

DellaVigna, S. and Malmendier, U. (2006): “Paying not to go to the Gym”, *American Economic Review*, 96 (3), p. 694-719.

*Kahneman, D. and Tversky, A. (1979): “Prospect theory: An analysis of decisions under risk”, *Econometrica*, 47, 313-327.

*Kahneman, D. and Tversky, A. (1981): “The Framing of Decisions and the Psychology of Choice”, *Science*, 211, p. 453-458.

*Kahneman, D. and Tversky, A. (eds.) (2000): *Choices, values and frames*. Cambridge University Press.

Thaler and Sunstein (2008): *Nudge: Improving Decisions about Health, Wealth, and Happiness*, Yale University Press.

Time schedule

30 course-hours (an hour lasts 45 minutes).

Monday, 23 August to Friday 27 August, 6 hours of teaching per day

09:30 to 11:00;

15-minute break

11:15 to 12:45

1-hour lunchbreak

13:45 to 15:15



Assessment

40% short daily homework

30% daily MC quiz

30% online exam

Homework

You will be asked a short question related to the topics discussed on that day. In small groups (Bachelor) or on your own (Master) you should find an academic resource (research publication, textbook, ect.) to provide an answer to this question. Your answers should be short (about 150 words max.) and should refer to what you have learned on that day and what is stated in the source you found.

Daily quiz

You will take a daily, 10-minute MC quiz about the topics discussed on that day. This quiz should be easy if you actively participated in class that day and/or read up on the topics discussed.

Online exam

This will take place one or two weeks after the end of the course via the course's Moodle page. The exam will consist mostly of MC questions but might include a few open questions.