Rennes Exchange Program in Economics

COURSE DESCRIPTION

✉️ eco-international@univ-rennes1.fr
🌐 eco.univ-rennes1.fr/en/rep
**MODALITIES**

You have to choose at least 10 ECTS* credits per semester.

*European Credit Transfer System

- **Economic courses** are taught by lecturers of the Faculty of Economics. They take place there as well as English language courses.

- **French courses** are taught by CIREFE, a French learning center dedicated to international students. These courses (6 ECTS) take place at the University Rennes 2.

- **Sport courses** are taught by SIUAPS (Sport service). About 70 different sports and activities are offered. Location of the course depends on the sport or activity.

You will also get the opportunity to learn and use the Bloomberg database and take the Bloomberg certificate (BMC).
# TABLE OF CONTENTS

## Fall semester

- GAME THEORY .................................................................................................................. 4
- INDUSTRIAL ORGANISATION ............................................................................................ 5
- STATISTICS .......................................................................................................................... 6
- PUBLIC ECONOMICS ......................................................................................................... 7
- MACROECONOMICS POLICIES ......................................................................................... 8
- INTERNATIONAL ECONOMICS ......................................................................................... 9

## Spring semester

- ECONOMIC GROWTH ........................................................................................................ 10
- ECONOMETRICS ................................................................................................................ 11
- RISK AND UNCERTAINTY ................................................................................................. 12
- TRANSPORT AND LOGISTICS ......................................................................................... 13
- INNOVATION AND DIGITAL NETWORKS ........................................................................... 14
- INTERNATIONAL TRADE .................................................................................................... 15
- BUSINESS INTELLIGENCE USING THE BLOOMBERG DATABASE .................................. 16
- BUSINESS SIMULATION .................................................................................................... 17
- EUROPEAN ECONOMICS ................................................................................................... 18
Semester: Fall semester  
ECTS credits: 6  
Lectures: 24 hours  
Tutorials: 12 hours

COURSE DESCRIPTION

Game Theory analyses decision making in a context of strategic interdependency. Strategic interdependency occurs when a decision maker is aware that her/his actions affect the decisions of other decision makers and in turn her/his own decisions are impacted by other decision makers. Such a context is frequent in the case of business decisions. In the last 30 years, Game Theory has become the core of economics, both macro and micro.

Game Theory uses formal and analytical tools from economics and mathematics. These allow us to understand the rational approach to decision making. These also serve as a benchmark to compare actual decisions to theoretical predictions. The course introduces the main concepts and tools of Game Theory.

You will learn how to represent an economic situation as a game and how to analyze it using different equilibrium concepts proposed in the literature. Ideas such as dominance, backward induction and Nash equilibrium, are discussed and applied to examples drawn from economics, politics... Finally, you will play several games such as ultimatum game, investment game, public good game, etc. in a room dedicated to laboratory experiments, and you will confront your decisions made in the game with standard predictions of game theory.

PREREQUISITES

You must be comfortable with mathematical thinking and rigorous arguments. Relatively little specific math is required.

READINGS

✓ Binmore (1992): Fun and Games, A Text on Game Theory, Houghton Mifflin  
✓ Camerer (2003): Behavioral Game Theory: Experiments on Strategic Interaction  

COURSE OUTLINE

Chapter 1. Introduction  
Chapter 2. Properties and representations of a game  
Chapter 3. Static games  
Chapter 4. Dynamic and repeated games
INDUSTRIAL ORGANISATION

Semester: Fall semester
ECTS credits: 4
Lectures: 24 hours

COURSE DESCRIPTION

This course provides a graduate level introduction to Industrial Organization. It deals with the study of the interactions between firms and their competitors, suppliers, and customers when imperfect competition is characterized.

The aim of the course is to provide an understanding of concepts and tools in the theory of Industrial Organization, and to explore recent developments in the field by exposing students to a wide variety of techniques. It includes presentation of several case studies (firm, markets) for students to apply theoretical concepts to real-world problems and business strategy.

PREREQUISITES

Principles of Microeconomics, Basic Optimization and Mathematical Programming.

READINGS


COURSE OUTLINE

1) Introduction: From Industrial economics to strategic behavior of firms
   1.1 Strategic behavior/Industrial Organization: what, why and how? (PRN Chapter 1)
   1.2 Basic conditions, market structure and market power (PRN 3 and 4)

2) Oligopoly and strategic interaction: how do firms compete strategically?
   2.1 Game theory (PRN 9)
   2.2 Cournot competition (PRN 9)
   2.3 Bertrand competition (PR10)
   2.4 Dynamic competition (PR11)

3) Non price competition: How do firm differentiate their products?
   3.1 Differentiation (PRN 10)
   3.2 Advertising (PRN 20, 21)

4) Anticompetitive strategies: how do firms relax competition?
   4.1 Price Fixing and collusion (PRN 14 and 15)
   4.2 Entry deterrence, predatory conduct and monopolization (PRN 12, 13)
   4.3 Mergers (PR 16)

5) Vertical relationships: how do firms interact with their suppliers and customers?
   5.1 Vertical price constraints (PRN 18)
   5.2 Non price vertical restraints (PRN 19)
   5.3 Vertical mergers (PRN 17)
COURSE DESCRIPTION

This course covers applied statistical methods with emphasis on confidence intervals estimation and hypothesis testing. It is suitable for data analysis with a rather limited study of probability. The emphasis is on learning to apply statistical methods and probability rules to solve real problems in business and economics. For instance, it can be used to compare the mean variance or proportions between two different datasets (e.g. country dataset in microeconomics, consumer dataset in marketing). This course is a prerequisite for a course in introductory econometrics.

PREREQUISITES

- Organizing and presenting collected data
- Descriptive statistics: measures of location and spread
- Basic probability concepts
- Random variables and probability distributions
- Discrete probability distributions (including Bernoulli, Binomial and Poisson) and continuous probability distributions (including normal and uniform).

COURSE OUTLINE

1. Sampling distributions

2. Confidence intervals calculus and interpretation: for a mean and a proportion and for the difference between two means and two proportions

3. Hypothesis testing of means, variances and proportions; Goodness of fit tests and contingency tables (independence)
**Course Description**

Public economics focuses on two sets of questions: I) how do governments policies affect the economy and II) how should policies be designed to maximize welfare.

The lectures provide an overview of public interventions from a microeconomic perspective. We insist on decision-making process, implementation of policies and their evaluation.

The impacts of economics policies may differ according to location (city area, county, country) in which these policies are implemented. They may also differ over time with coming generations being affected. Spatial and generational dimensions are also considered.

**Prerequisites**

Intermediate microeconomics

**Readings**

- Pindyck Robert and Daniel Rubinfeld (2008), Microeconomics, Pearson

**Course Outline**

1. Why should we study public economics?
2. Public goods and externalities
3. Evaluation of public policies
4. The public choice perspective
5. The spatial dimension in public economics
6. Introducing time and generations
COURSE DESCRIPTION

While unemployment seems to be a purely cyclical phenomenon in the US, several European countries exhibit some hysteresis effect that is unemployment has become a long-lasting phenomenon and exhibits a steady growth since 70’s. This course explores theoretical explanations of the unemployment issue through the Keynesian and classics opposition. The potential trade-off between inflation and unemployment (the Philips curve) is widely discussed referring to the most recent development in macroeconomics. Different macroeconomic policies supposed to reduce the unemployment rate are analyzed using the AS/AD model with flexible prices. The discretion vs rules debate is investigated in the last chapter of the course.

PREREQUISITES

Principles of Macroeconomics (Macroeconomic equilibrium with IS/LM model).

READINGS

Semester: Fall semester  
ECTS credits: 4  
Lectures: 24 hours

COURSE DESCRIPTION

Contemporary economics are more and more open and interdependent. Beside finance and firm globalization, such openness translates into increased levels of trade (imports, exports) between countries.

The course is devoted to trade issues. It presents the theoretical and historical insights that have traditionally formed the core of the international trade approaches. It also analyses the impacts of international trade policies such as bilateral or multilateral (cf. World Trade Organization agreements).

PREREQUISITES

The course does not require an extensive background in economics. Students who have had courses in economics principles, microeconomics and macroeconomics should find the course accessible.

READINGS


COURSE OUTLINE

Chapter 1. Introduction – Trade in the Global Economy

Chapter 2. International Trade Theory: Ricardian Model, Specific Factors Model, Heckscher-Ohlin Model...

Chapter 3. International Trade Policy: Instruments, International Agreements...
ECONOMIC GROWTH

Semester: Spring semester
ECTS credits: 6
Lectures: 24 hours
Tutorials: 12 hours

COURSE DESCRIPTION

Because economic growth has a strong impact on people’s living standards and on inequalities between people and countries in the long run, growth theory has established as a primary field in economics.

The main objectives of the class are to:

1. Identify the main determinants of economic growth and inequalities
2. Understand why some countries are richer than others, and understand why some countries grow at a faster rate than others
3. Understand how and when governments should intervene to boost economic growth in their countries.

PREREQUISITES

✓ Basic concepts in microeconomics: consumer theory, producer theory and welfare theory.
✓ Basic concepts in macroeconomics: Production function, national accounts and macroeconomics aggregates.

READINGS

✓ Blanchard O., (2009), Macroeconomics, ed. Pearson, chapter 12
✓ Carlin W. and Soskice D., (2006), Macroeconomics, Oxford University Press, chapter 8

COURSE OUTLINE

Chapter 1. Production and growth: some key stylized facts
Chapter 2. Exogenous and optimal growth theories
Chapter 3. Endogenous growth theory
COURSE DESCRIPTION

Economics analyses rely on linkages and relationships between variables. For instance, in microeconomics, price is claimed to negatively influence demand. In macroeconomics, money growth may cause inflation (and so positively influence the inflation rate). Econometrics develop a series of methods to empirically measure this type of relationships and test whether one variable has a weak, strong or zero influence on another variable.

This course is an introduction to econometrics with focus on economic applications. This course emphasizes both the theoretical and the practical aspects of statistical analysis, focusing on techniques for estimating econometric models of various kinds and for conducting tests of hypotheses of interest to economists.

PREREQUISITES

Students should have completed the course Statistics (see Fall semester).

READINGS


COURSE OUTLINE

1. Introduction
2. Simple Linear Regression
3. Multiple Linear Regression
**COURSE DESCRIPTION**

Many if not all economic and business decisions involve some risk and uncertainty. Under risk or uncertainty, a decision can lead to various consequences, which ultimately affect her / his satisfaction (utility, profit...). Because standard microeconomic theory does not account for such uncertainty, there is a need to develop alternative tools and theories to comprehend I) how agents behave when facing risk and II) what are the economic consequences of this behavior.

The course is devoted to those issues. It primarily elaborates on Expected utility theory and then considers alternative theories and several economic applications (insurance demand, asymmetric information...).

**PREREQUISITES**

Students should have completed Microeconomic Principles.

**COURSE OUTLINE**

1. Decision under uncertainty
2. Decision under risk
3. The expected utility theory
4. Risk and risk aversion
5. Insurance Demand
6. Asymmetric Information
TRANSPORT AND LOGISTICS

Semester: Spring semester
ECTS credits: 3
Lectures: 16 hours

COURSE DESCRIPTION

Most economic activities involve distance and space: workers need to commute every day from home to working place, firms need to transport goods from warehouses to marketplaces to reach customers... Transport activities then involve both private costs (time, travel expenses) but also social costs (environmental costs associated with e.g. traffic congestion, air / noise pollution).

Transport and Spatial economics analyses how introduction of transport and space issues impact on agent’s (firms, workers, consumers) choices. In turn, these choices shape geography.

This course aims at making a clear relationship between these two fields, transport and spatial economics by presenting first the key concepts of transport economics: Value of Time (VoT), Traffic congestion, Users Traffic Equilibrium, transport policies. Second, the key ideas of spatial economics are presented: Agglomeration economies, urban sprawl, bid-rent approach, monocentric and polycentric cities.

PREREQUISITES

Basic Macroeconomics, Intermediate microeconomics, Introductory Game Theory (see Fall semester) are helpful.

READINGS

✔ Button K. (2010), Transport Economics, E. Elgar
✔ Fujita M., Thisse JF. (2002), Economics of Agglomeration – Cities, industrial location and regional growth, Cambridge
✔ Small, K. and Verhoef (2007), The Economics of Urban Transportation, Routledge

COURSE OUTLINE

Chapter 1. The Transportation Sector
Chapter 2. Transport Costs
Chapter 3. Spatial Economics
Chapter 4. Transport Public Policies
INNOVATION AND DIGITAL NETWORKS

Semester: Spring semester
ECTS credits: 3
Lectures: 16 hours

COURSE DESCRIPTION

This course covers the economics of innovation and network industries, especially that of the so-called ICT (information and communication technology) industries. Network industries include the telephone, e-mail, Internet, computer hardware and software, banking services, airline services, and many more. Current developments one may observe in these industries result from strategic decision-making that IO (industrial organization) concepts and tools allow to understand and analyze. For instance, they include economies of scope, component systems, product bundling and tying, network externalities and congestion, switching costs, and first- and second-mover advantages.

This course presents to what extent price and non-price strategies foster or limit business performance and social outcomes when network features characterize the market. Specific effort is held to illustrate the relationship between what does happen on such markets and how the IO theory aims at explaining such facts.

PREREQUISITES

Intermediate microeconomics and Industrial organization are necessary backgrounds. It will also be helpful if students are familiar with basic concepts in Game Theory. See the syllabi of these courses (Fall semester).

READINGS


COURSE OUTLINE

1. Introduction: An overview of network industries
2. Network externalities
3. Compatibility and incompatibility with systems and components
4. Compatibility and incompatibility with supporting-services (software)
5. Technology replacement and switching costs
COURSE DESCRIPTION

International trade occurs mainly between northern countries that are similar in terms of factor endowments and productivity. Such trend is left unexplained by standard approaches in international trade since those approaches explain international trade by differences in endowments and productivity. This course aims at describing and explaining this puzzling phenomenon and will consider new theories of international trade for that. More particularly we will examine the role of increasing returns to scale introduced by Paul Krugman at the end of the 70s. We will also consider how globalized companies (i.e. firms with multiple production plants and / or market) should organized in this setting.

PREREQUISITES

International economics (see Fall semester). You may not have taken this course though you should be familiar with standard approaches in international trade.

READINGS


COURSE OUTLINE

1. External Economies of Scale and the International Location of Production
2. Firms in the Global Economy: Export Decisions, Outsourcing, and Multinational Enterprises
3. The Instruments of Trade Policy
BUSINESS INTELLIGENCE USING THE BLOOMBERG DATABASE

Semester: Spring semester
ECTS credits: 3
Lectures: 18 hours

COURSE DESCRIPTION

Bloomberg L.P. is a private company specialized in financial and business information. Bloomberg’s terminals are the most widely used in financial trading rooms worldwide. They gather access to data from financial markets, companies and a wide range of macroeconomic variables. The Faculty provides its own trading room equipped with such terminals.

The purpose of this course is to train students to the use of Bloomberg terminals and software. To this end, this 18-hours course will be divided in two parts. Students will first attend an introduction course that will provide them a strong knowledge of Bloomberg main functions. This course will end with some exercises on terminals that will help them to practice. After the introduction course, students will have to work by groups on an economic or financial issue. They will have to prepare an oral defense of their project at the end of the semester in front of a jury of experts.

Students must also complete the Bloomberg Market Concepts (BMC). This is an 8-hour e-learning module about economics, currency, fixed income and equity valuation. Completing the BMC offers them the possibility to add a Bloomberg skill in their resume.

PREREQUISITES

There are no prerequisites or readings required. However, students who attend this class should be comfortable with computer software (e.g. Microsoft Excel), should have a strong interest in economics and finance and be aware of current events in financial markets, monetary policy, and macroeconomics.

COURSE OUTLINE

Part 1: Introduction course

1. Bloomberg Terminal (keyboard, account, language, navigation …)
2. Analyze data with Bloomberg (main functions, portfolio, tools, Launchpad…)
3. Import & Export data (API of Excel, Python or R…)
4. A case study (practical exercises)

Part 2: Answering an economic or financial issue with Bloomberg data and tools

After attending the introduction course, students must deal with an economic or financial issue on Bloomberg by groups.

Part 3: Bloomberg Market Concepts (BMC)

Students must also complete the 8-hour e-learning module to validate the course.

The final grade will be composed of multiple components such as the involvement in class, the project execution, the BMC’s result…
**COURSE DESCRIPTION**

During this course, you will join a student team. Each team is in charge of running a private company. You will need to design a business strategy and implement this strategy through proper decisions (distribution & marketing, production & supply chain, finance). At the end of a game session (typically ½ day), you will be informed about the commercial and financial performance of your business and you will need adjust your strategy accordingly. During a game session (or between two sessions), new events may also affect your business and the market environment.

Learning outcomes. During this course, you will learn how to ...

- Design and implement a business strategy
- Understand the linkages between marketing, production and finance decisions
- Read and gain insights from a company’s bookkeeping data

**PREREQUISITES**

You must be comfortable with mathematical thinking using a spreadsheet software (e.g. Excel, Open Office). Relatively little specific math is required.

The course is not dedicated to accounting issues and the teacher will help you interpreting financial data. However, you need to know the basics of accounting (profit & loss account, balance sheet) before you attend to the course.

**READINGS**

Readings are not mandatory for this course but will help you prepare for the game session.

- Part I and Part II of Principles of Managerial Finance, Lawrence J. Gitman, and Chad J. Zutter, Pearson Ed., 2015

**COURSE OUTLINE**

The game sessions last three whole days and you need to attend the six game sessions. Students may be asked to prepare additional work between two sessions. About two weeks after the game sessions, each group will have to prepare a written report and an oral defense of their business project. The final grade will be composed of the following items: a) written report; b) oral presentation; c) participation during game sessions; d) business performance.
COURSE DESCRIPTION

This course is devoted to the presentation and analysis of the key European economic issues. Starting with a short overview of key current European issues, Part I first elaborates on the process of European integration from historical and political perspectives. These perspectives are building blocks to understand the actual forms of European economic integration.

Part II considers the microeconomics (market level) of European integration. It first elaborates on the mechanisms of economic integration at the market level and then considers several markets and policies (trade policy, Common Agriculture Policy).

Part III considers the macroeconomics (country level) of European integration. It first elaborates on the mechanisms of macroeconomic integration (optimal currency zones, growth convergence/divergence). It then considers the role of fiscal and monetary policies in this framework.

Part IV (subject to time availability) considers specific topic(s) such as banking and financial integration, industrial policy, tax policy, innovation policy. Those topics will be presented in a synthetic and non-technical way (2 hour lecture).

PREREQUISITES

You must be comfortable with mathematical thinking and rigorous economic discussion. Previous knowledge in open macroeconomics and international economics is not mandatory but may be helpful.

READINGS

Lectures will be based on selected chapters of the reference book. This book is available from the library under Reference no. 337.142 BAL. Please make sure to use the latest edition of the book to access updated content (5th edition, 2016).
COURSE OUTLINE

Part I. European Economics: Historical & economic perspectives, current issues

Chapter 0. (Introduction) Current European issues

Chapter 1. European integration: general overview and historical perspectives

Part II. The Economics of European Integration, microeconomic issues

Chapter 2. Theory

Chapter 3. Empirics & Policy

Part III. The Economics of European Integration, macroeconomic issues

Chapter 4. Theory

Chapter 5. Empirics & Policy

Part IV. (to be confirmed) Conclusion, selected topics in European Economics

Chapter 7. Innovation policy

GRADING POLICY

Total Grade is composed of two parts:

Homework. You will have to write a report on a specific topic. You are asked to work by groups of two or three students. Topics and guidelines will be given to you at the end of Part I. The deadline for submitting your report is April 1st.

Written exam. This exam is composed of Multiple Choice Questions, review questions and of an essay. It lasts two hours and is scheduled during the last lecture.

Exam attendance at the specified time is required. There are no exceptions to this rule. Late work, whether problem sets, exams, papers, or other work, does not count for course credit. It gets a grade of zero.