Module description

Field of study: *Business, Management and Services*
Degree course: *Bachelor of Science HES-SO in International Business Management*

1. Title of module — Economics III — 2024-25

Code:
3053

Type of course:
☒ Bachelor's ☐ Master's ☐ MAS ☐ DAS ☐ CAS ☐ Other: …

Level:
☐ Basic module
☐ Further studies module
☒ Advanced module
☐ Specialised module
☐ Other: …

Characteristic:
☒ Module where failure may lead to final dismissal from the degree course in accordance with Art.25 of the Framework directives on the Bachelor and Master degrees at the HES-SO

Type:
☒ Main module
☐ Module linked to main module
☐ Optional or subsidiary module
☐ Other: …

Time schedule:
☒ Module over 1 semester
☐ Module over 2 semesters
☒ Spring semester
☐ Autumn semester
☐ Other: …

2. Organisation

ECTS credits 4

Language:
☐ French
☐ German
☐ Other: ...
☐ Italian
☒ English

3. Prerequisite

☐ To have validated the module
☐ To have followed the module
☐ No prerequisite
☒ Other: to have validated the first-year assessment

4. Skills to be gained / general learning objectives

Objectives for the course: Economics of competition

The goal is to understand how to measure how much firms gain from anticompetitive behaviors. To achieve this, you will learn:

- How to measure competition
- How to create a counterfactual scenario to measure these gains
- How to theoretically identify the various gains and costs to society

Objectives for the course: Applied mathematics

At the end of the course, the student will be able to:

- Use mathematics tools to model and solve problems in the fields of economics, management and finance.
- Apply optimization techniques to find the best solution to minimization or maximization problems.
- Perform numerical simulations for management problems.
- Develop multivariate calculus techniques.

5. Teaching and content

Course: Economics of competition

- Building a counterfactual scenario.
- Defining a market, measure competition and market power
- Monopoly
- Collusion
- Horizontal and vertical mergers
- History of competition policy

Course: Applied mathematics

- Linear programming (graphical methods, use of Excel solver, application to management)
- Multivariate calculus (partial derivatives, optimization, optimization under constraints, quadratic programming)
- Calculus II (integration)
- Monte-Carlo simulations, applications to finance.
- Selected topics chosen by the instructor.

6. Assessment and validation methods

Each course syllabus available on the moodle plateform Cyberlearn describes the assessment and validation methods.

7. Reassessment requirements

☒ Reassessment possible
☐ No reassessment
☐ Other (please specify): …

7a Reassessment requirements (if module is repeated)

☐ Reassessment possible
☒ No reassessment
☐ Other (please specify): …

other reassessment modalities

Reassessment if the module grade is between 3.5 (included) and 3.9 (included).
After reassessment, the maximum grade is 4.0