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# Carbon and water footprint

Professor: Sergi Arfelis

Office hours: by appointment

Course Type: Compulsory

Credits: 3 ECTS

Term: Second

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## Course Description

The course provides information about the advantages and disadvantages of undertaking a carbon and water footprint compared to other evaluation methods. It provides the student with the knowledge associated with the existing carbon footprint standards. It also provides practical examples of carbon footprints applied at the product, service and organizational level. Students will be trained to understand the results of a carbon and water footprints, to carry them out carbon, to carry out critical reviews of footprints, to propose measures to reduce the footprint and to carry out a carbon and water footprint, propose measures of reduction and present them to the public. The course will explain the latest advances in carbon and water footprint calculation and future trends.

## Objectives (resultados de aprendizaje) and competences

At the end of the course, students should be able to:

- explain what climate change is, its physical and anthropogenetic causes and the ways for dealing with it.
- Describe the different methodologies, standards and sectoral guidelines for the carbon footprint assessment
- Apply and enhance the tools for carbon footprint allowing the students to assess any system.

## Methodology

The course comprises eight 3-hour sessions, which combine theory lecturing with general debates and applied discussions on business cases and exercises. Participants will also engage in presentations of reports, cases, or project assignments. Activities will require both individual and group work.

The course also involves a substantial amount of autonomous work outside the classroom combining readings that will help you to gain a deeper understanding of the material covered in the class.

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### Evaluation criteria

Three elements concur in the final mark:

- **Final exam (40%):** the final exam is used to assess the individual level of knowledge and understanding of each student. It will include questions covering topics from all the classes. This item counts for 40% of the final mark. The minimum grade to pass the exam is 5.
- **Project and presentation (40%):** Students will apply their knowledge to a real-life situation. They are expected to use the topics they learnt to use during the classes.
- **Class attendance and active participation (20%):** Attendance in every session is expected and recorded by means of an attendance sheet. It is your responsibility to comply with this measure. Class attendance is compulsory and will be reflected on your final grades; punctuality is a must. Note that unexcused absences reduce your score on the "attendance and participation" element of your final grade. In fact, two or more unexcused absences will result in an automatic score of zero and, in all likelihood, a fail mark for the course as a whole.

Attended all the sessions + actively and consistently participated in the class discussions during the entire course period	20
Attended all the sessions + actively and consistently participated in most of the class discussions	15-19
No more than one unexpected absence + often participated in the class discussions	10-14
No more than one unexpected absence + participated in some class discussions	5-9
No more than one unexpected absence + limited or no participation in class discussions	1-4
Otherwise	0

Other evaluation criteria to take into consideration:

#### Retake

Students who fail the course during regular evaluation will be allowed ONE re-take of the examination/evaluation. Students that pass any Retake exam should get a 5 by default as a final grade for the course. If the course is also failed after the retake, students will have to register again for the course the following year.

#### No-show

In case of a justified no-show to an exam, the student must inform the corresponding faculty member and the director(s) of the program so that they study the possibility of rescheduling the exam (one possibility being during the "Retake" period). In the meantime, the student will get an "incomplete", which will be replaced by the actual grade after the final exam is taken. The "incomplete" will not be reflected on the student's Academic Transcript.

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### Plagiarism

Plagiarism is to use someone else's work and to present it as one's own without acknowledging the sources in the correct way. All essays, reports or projects handed in by a student must be original work completed by the student. By enrolling at any ESCI UPF BSM Master of Science and signing the "Honor Code," students acknowledge that they understand the schools' policy on plagiarism and certify that all course assignments will be their own work, except where indicated by correct referencing. Failing to do so may result in automatic expulsion from the program.

### Bio of Professor

Jaume Albertí is currently leader of research line on sustainable construction and energy, and responsible for External Relations at the UNESCO Chair in Life Cycle and Climate Change. Since joining in 2015 his research focuses primarily on sustainable cities, construction, and industry projects. He was 4 years responsible for the Spanish Secretariat of Construction21, the international organization for sustainable construction. With more than 10 years working in the environmental sustainability field, he has been assessing and advising for sustainability implementation in many sectors, such as: industrial, pharmaceutical, construction, design, waste management, tourism, fashion, universities, local governments, manufacture, chemistry, food, and cultural among others. He has been involved in international projects cooperating with colleagues from different cultures around the world: Colombia, USA, Canada, France, Portugal, Macedonia, Morocco, China, Italy, Australia, Israel, and Palestine among others.

Jaume Albertí holds a PhD developed at the UNESCO Chair in Life Cycle and Climate Change. His thesis was awarded as the best PhD thesis in environment by the University of Girona. It is the first approach to comparability of Cities Sustainable development, with a life cycle perspective. He also holds an MSc in Sustainability and Corporate Social Responsibility (Jaume I University). Master of Advanced Studies in Applied Mechanics and Industrial Engineer (University of Navarra). Technical Architect (Basque Country University).

### Reading Materials/ Bibliography/Resources

No textbook is required for this course. All the required material will be provided. Any readings, notes, handouts, dataset, or additional course material will be available through the course website.

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