

## Impact of environmental stresses on crops production

農業生産への環境ストレスの影響  
(ボルドー大学)

Course	Impact of environmental stresses on crops production
Course No.	01ER635
Credits	1.5 credits
Grade	2 <sup>nd</sup> year
Timetable	Fall AB
Instructor	Prof. Eric Gomès (UB) 、 Assistant Prof. Gérard Barroso (UB) 、 Assistant Prof. Virginie Lauvergeat (UB)
Course Overview	Interaction of plants with environmental factors is a key parameter of their development and thus of yield and performance of crop systems. This teaching unit focuses on the impact of abiotic (temperature, light, water and nutrient availability) and biotic (phytopathogenic or symbiotic microorganisms) factors with crop physiology and productivity. Plant adaptation strategies and defense mechanisms will be presented. Finally, production of mycotoxins by filamentous fungal phytopathogenic species during plant infection will be studied as a response to plant defense mechanisms.
Remarks	Conducted in English at University of Bordeaux
Course Type	Lectures/case studies
Link between Course Objectives and Activities	Students will acquire fundamental knowledge relating to plant environment interactions and their consequences on crop production. They will have basic notions of the molecular and genetic bases of mechanisms ruling plant stress responses and adaptations.
Academic Goal	<ol style="list-style-type: none"> <li>1. Students will be able to explain/describe the main effects of biotic and abiotic stresses on plant metabolism and development;</li> <li>2. Students will be able to explain/describe the main phenotypic traits to target for crop stress tolerance breeding;</li> <li>3. Students will be able to explain/describe molecular characterization of phytopathogenic agents;</li> <li>4. Students will be able to use plant/microbe interaction knowledge to design sustainable alternative crop protection method</li> </ol>
Course Schedule	<ol style="list-style-type: none"> <li>1. Students will acquire fundamental knowledge relating to plant environment interactions and their consequences on crop production.</li> <li>2. They will have basic notions of the molecular and genetic bases of mechanisms ruling plant stress responses and adaptations.</li> </ol>
Course Prerequisites and Advisories	
Grading Philosophy (Percentage/ Criteria/ Methodology)	Students are evaluated based on their report assignments and terminal written and/or oral examination.
Self-Directed Learning Other Than Coursework	Scientific papers and case study reports, as assigned.
Textbooks, References and Supplementary Materials	None.
Office Hours	By appointment only.
Other (i.e. Expectations on Classroom, Conduct and Decorum etc.)	

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Related Courses	
Keywords	