2020 - 2021

COURSES IN ENGLISH FOR EXCHANGE STUDENTS

Food Biology

FB

Course listing

IUT Dijon Dijon-Auxerre

UNIVERSITÉ DE BOURGOGNE

Course listing

ID:	**FB_A_01**			**ECTS**
Disciplinary field:	Food Science			3
Module:	English			
Semester:	*Autumn*			
Teaching hours:	-	-	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☒ English-only		☐ French-English	

- Objective(s):
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- Skill(s):
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- Prerequisite(s):
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- Remark(s):
  - For non-native speakers.

ID:	**FB_A_02**			**ECTS**
Disciplinary field:	Food Science			3
Module:	English			
Semester:	*Autumn*			
Teaching hours:	-	-	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☒ English-only		☐ French-English	

- Objective(s):
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- Skill(s):
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- Prerequisite(s):
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- Remark(s):
  - For non-native speakers.

ID:	**FB_A_03**			**ECTS**
Disciplinary field:	Food Science			1
Module:	Bacterial stress and adaptation			
Semester:	*Autumn*			
Teaching hours:	-	2h	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☐ English-only		☒ French-English	

- Objective(s):
  - To know how to develop experimental protocols from littérature survey.
  - Collaborative work will be required in designing protocols, in implementing the protocols in the lab and in data interpretation.

- Skill(s):
  - Scientific reading, design of experiments, manipulation of bacteria following good laboratory practice.

- Prerequisite(s):
  - Basic microbiology.

- Remark(s):
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ID:	**FB_A_04**			**ECTS**
Disciplinary field:	Food Science			0,5
Module:	Bacterial stress and adaptation			
Semester:	*Autumn*			
Teaching hours:	-	2h	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☐ English-only		☒ French-English	

- Objective(s):
  - To be able to construct a proper powerpoint slide show (Scientific communication).
  - To be able to make a scientific oral presentation (Scientific communication).

- Skill(s):
  - Computing skills, communication.

- Prerequisite(s):
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- Remark(s):
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ID:	**FB_A_05**			**ECTS**
Disciplinary field:	Food Science			1
Module:	Food Processing			
Semester:	*Autumn*			
Teaching hours:	9h	-	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☒ English-only		☒ French-English	

- Objective(s):
  - To know how different types of food are processed.
- Skill(s):
  - Food proceesing .
- Prerequisite(s):
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- Remark(s):
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ID:	**FB_A_06**			**ECTS**
Disciplinary field:	Food Science			6
Module:	Internship/ Professional project			
Semester:	*Autumn*			
Teaching hours:	-	-	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☒ English-only		☐ French-English	

- Objective(s):
  - Internship in a research lab of the university
- Skill(s):
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- Prerequisite(s):
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- Remark(s):
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ID:	**FB_A_07**			**ECTS**
Disciplinary field:	Food Science			3
Module:	RNA interference and CRISPR-CAS			
Semester:	*Autumn*			
Teaching hours:	7h	-	20h	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☐ English-only		☒ French-English	

- Objective(s):
  - To know how to manipulate gene expression using two different approaches : RNAi and CRISPR-CAS.
  - The student will attend the lectures and assist to the pratical works (demonstration).

- Skill(s):
  - Improvment of theoretical knowledge concerning modulation of gene expression.
  - Validation tests of gene expression manipulation.

- Prerequisite(s):
  - Basis in molecular and cellular biology.

- Remark(s):
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ID:	**FB_A_08**		**ECTS**
Disciplinary field:	Food Science		3
Module:	Culture of rat brain astrocytes		
Semester:	*Autumn*		
Teaching hours:	3h	-	23h
	Lectures	Tutorial classes	Practical work
Teaching type:	☐ English-only	☒ French-English	

- Objective(s):
  - To generate a primary culture of glial cells from new born rat brains,
  - To enrich cell culture in astrocytes,
  - To visualize in response to injury induced by scratch the astrocytes migration in vitro by immunofluorescence technique.

- Skill(s):
  - Dissection of new born rat brain.
  - Establisment of primary cell culture.
  - Plating cells, immunofluorescence technique.
  - Microscopic observations.
  - Purification procedures of mixed cells.

- Prerequisite(s):
  - Basis in cell culture techniques and cellular biology.

- Remark(s):
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ID:	**FB_S_01**			**ECTS**
Disciplinary field:	Food Science			3
Module:	Analysis of organic compounds			
Semester:	*Spring*			
Teaching hours:	2h	7h	20h	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☐ English-only		☒ French-English	

- Objective(s):
  - To perform syntheses in organic chemistry while respecting the safety rules.
  - To develop the basic knowledge in organic chemistry to master the successive reactions.

- Skill(s):
  - Theorical knowledge in the reaction mechanism.
  - Use of various analysis tools.

- Prerequisite(s):
  - Organic chemistry

- Remark(s):
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ID:	**FB_S_02**			**ECTS**
Disciplinary field:	Food Science			3
Module:	English			
Semester:	*Spring*			
Teaching hours:	-	-	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☒ English-only		☐ French-English	

- Objective(s):
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- Skill(s):
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- Prerequisite(s):
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- Remark(s):
  - For non-native speakers.

ID:	**FB_S_03**			**ECTS**
Disciplinary field:	Food Science			1
Module:	Food Processing			
Semester:	*Spring*			
Teaching hours:	9h	-	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☒ English-only		☒ French-English	

- Objective(s):
  - To know how different types of food are processed.
- Skill(s):
  - Food proceesing .
- Prerequisite(s):
  -
- Remark(s):
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ID:	**FB_S_04**			**ECTS**
Disciplinary field:	Food Science			3
Module:	English			
Semester:	*Spring*			
Teaching hours:	-	-	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☒ English-only		☐ French-English	

- Objective(s):
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- Skill(s):
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- Prerequisite(s):
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- Remark(s):
  - For non-native speakers.

ID:	**FB_S_05**			**ECTS**
Disciplinary field:	Food Science			0,5
Module:	Food packaging			
Semester:	*Spring*			
Teaching hours:	3h	-	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☒ English-only		☐ French-English	

- Objective(s):
  - To study packaging materials, processing packaging material, technologies of filling and packing.
- Skill(s):
  - Food packaging.
- Prerequisite(s):
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- Remark(s):
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ID:	**FB_S_06**			**ECTS**
Disciplinary field:	Food Science			3
Module:	Enzymes			
Semester:	*Spring*			
Teaching hours:	8h	-	16h	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☐ English-only		☒ French-English	

- Objective(s):
  - To know the application of enzymes in food industry, the production and purification of enzymes and the differents enzyme kinetics.

- Skill(s):
  - Improvment of theoretical knowledge concerning the structure and fonction of enzyme uses in food industry.
  - Mathematical description of enzyme action developed by Michaelis and Menten model and the dertemination of kinetics parameters of enzyme in prese

- Prerequisite(s):
  - Basis in chemistry and food biochemistry

- Remark(s):
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ID:	**FB_S_07**			**ECTS**
Disciplinary field:	Food Science			6
Module:	Industrial microbiology and genetics			
Semester:	*Spring*			
Teaching hours:	20h	12h	28h	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☐ English-only		☒ French-English	

- Objective(s):
  - To know how to use the techniques dedicated to biotechnologies and genetic engineering.

- Skill(s):
  - Improvement of practical knowledge concerning the tools used in bioprocess.
  - Improvement of theorical knowledge concerning gene manipulation in industries.

- Prerequisite(s):
  - Basis in molecular biology and bioprocess

- Remark(s):
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ID:	**FB_S_08**			**ECTS**
Disciplinary field:	Food Science			6
Module:	Internship/ Professional project			
Semester:	*Spring*			
Teaching hours:	-	-	-	
	Lectures	Tutorial classes	Practical work	
Teaching type:	☒ English-only		☐ French-English	

- Objective(s):
  - Internship in a research lab of the university.
- Skill(s):
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- Prerequisite(s):
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- Remark(s):
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