

Free Online Courses in English at UFV

Term: 2023-2

When will classes take place?

- August 7 - December 1th, 2023

Who is eligible?

- **Academic mobility**: undergraduate, Master's, or Ph.D. students currently enrolled in any Higher Education Institution - **Brazilian or foreign universities. (if you are already selected for an undergraduate/master/doctorate course, but classes have not started yet, please register as a degree holder.)**.
- **Degree holders**: individuals holding a bachelor's degree granted by any Higher Education Institution. This category must be the one chosen for candidates who are not currently enrolled in any Higher Education Institution.

If you have any doubts about which category to apply for, write to dri@ufv.br.

- For both categories the courses are free of charge.

Steps for the application process:

1. Between **04-44/07/2023** - **NEW deadline: 17/07/2023 until 17:00 (Brazilian time)**, fill out the application form and upload the required documentation:
 - a. For **academic mobility** students: <https://forms.gle/WYTjjo55xfRW6kb6>
 - b. For **degree holders**: <https://forms.gle/sWeqKNaA41pHR77s6>
2. The coordinator of each course at UFV will evaluate your application, based on your curriculum vitae and transcript of records.
3. Those who have their registration approved, will receive an email message by **07/08/2023** with the access information to the UFV systems to participate in the courses.
If you don't receive that email message, you were not selected.
4. Classes will start on **August 7**, 2023.

5. **Required documents** for all candidates (to be attached to the registration form **in this sequence**):
1. Copy of National Identity Card (passport preferred for foreign applicants);
 2. Copy of birth or marriage certificate (if you do not have this document, **fill the [Declaration of personal information](#) document and stamp it at the Notary Office**) - the registration at UFV, if you are selected, will use exactly the names indicated in your official certificate/declaration;
 3. **[Nomination letter](#)** - **mandatory** for Academic Mobility candidates;
 4. Copy of the Undergraduate/Bachelor Certificate (if you have it);
 5. Copy of the Undergraduate/Bachelor Academic Transcript (if you have it);
 6. Copy of the Master's Certificate (if you have a Master's degree);
 7. Copy of the Master's Academic Transcript (if you have a Master's degree);
 8. Copy of the Doctoral Certificate (if you have a Doctoral degree);
 9. Copy of the Doctoral Academic Transcript (if you have a Doctoral degree);
 10. Copy of CPF (for Brazilians only or if you already have it);
 11. Copy of Voter Registration Card (for Brazilians only);
 12. Copy of Military Document (for Brazilian men only);
 13. Face photo - recent photo, 3x4 format, with light background.

IMPORTANT :

- **Good internet connection** is mandatory to follow the activities!
- For academic mobility, one of the required documents is an official nomination from the home institution. **“Self-nominated” candidates are not accepted for academic mobility.**
- **The program does not provide a degree** - students who conclude courses will receive only an official transcript of records from UFV.

**TAKE CARE TO SELECT ONLY COURSES RELATED
TO YOUR AREA OF EXPERTISE.**

Remote Courses

CODE	NAME	LECTURERS	
ARQ 796 (T1)	CFD Simulation with OpenFOAM	Joyce Correna Carlo	joycecarlo@ufv.br
BAN 604 ¹ (T1)	Systematic Review	Reggiani Vilela Gonçalves	reggiani.goncalves@ufv.br
BAN 773 (T1, P1)	Social Insects	Maria Augusta Lima	maugusta@ufv.br
BIO 610 (T1)	Cell Biology	Carolina Gonçalves Santos	cgsbio@ufv.br
BIO 660 ¹ (T1)	Parasite-Vector Interactions	Gustavo Ferreira Martins	gmartins@ufv.br
BQI 602 (T1)	Biosafety	Cláudio Mafra	mafra@ufv.br
BQI 700 (T1)	Structures and Functions of Macromolecules	Gabriela Maitan-Alfenas	gabriela.maitan@ufv.br
BQI 702 (T1)	Biochemistry and Biotechnology of Biomolecules	Luciano Fietto	lgfietto@ufv.br
BQI 760 (T1, P1)	Bioinformatics I	Tiago Mendes	tiagoaomendes@ufv.br
FIT 679 (T2)	Biotechnology Applied to Plant Breeding	Guilherme da Silva Pereira	g.pereira@ufv.br
FIT 796 ¹ (T1)	Nutritional Diagnosis of Plants	Junia Maria Clemente	junia.clemente@ufv.br
LET 604	Portuguese for Foreigners	Idalena Chaves	idalena@ufv.br
VET 750 ¹ (T1)	Foodborne Pathogens and Diseases	Luís Augusto Nero	nero@ufv.br
VET 775 ¹ (T1)	Clinical Biochemistry Applied to Veterinary Medicine	Leandro Abreu da Fonseca	leandroabreu@ufv.br

VET 791 (T1)	Stem Cells in Tissue Regeneration	Emily Correna Carlo Reis	emily.carlo@ufv.br
ZOO 792 (T1)	Animal Breeding and Genetics	Daniele Botelho Diniz Marques	daniele.diniz@ufv.br

Remote courses Timetable: UTC -03:00

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00h	BQI 760	BQI 700	BQI 760	BQI 700	BQI 602
9:00h	BQI 760	BQI 700	BQI 760	BQI 700	BQI 602
			ZOO 792		ARQ 796
10:00h	BIO 610	FIT 679	BIO 610		BQI 602
	FIT 679		ZOO 792		ARQ 796
			BQI 702		LET 604 <i>(from 09:30h)</i>
11:00h	BIO 610	FIT 679	BIO 610		BQI 602
	FIT 679		ZOO 792		ARQ 796
12:00h					LET 604 <i>(until 12:30h)</i>
13:00h					
14:00h		BAN 773			
15:00h		BAN 773			
16:00h		BAN 773			
17:00h					

OBS:

- The timetable will be defined later by the lecturer after discussing with the students enrolled.

All classes will take place from **August 7 to December 1th, 2023.**

Face-to-face Courses

Choose in only if you will be in the city where the course will be held (all at Viçosa campus).

CODE	NAME	LECTURERS	
CIV 665 (T1)	Eco-efficient construction and building materials	José Maria Franco de Carvalho	josemaria.carvalho@ufv.br
ENT 669 (T1)	Insecticide (Eco)Toxicology	Raul Narciso Carvalho Guedes	guedes@ufv.br
ENT 671 (T1)	Biological Control of Arthropods	Angelo Pallini	pallini@ufv.br
FIP 602 ² (T1)	Plant Disease Epidemiology	Emerson Medeiros Del Ponte	delponte@ufv.br
FIT 371 (T2)	Plant Biotechnology Classes will start on 7/14	Guilherme da Silva Pereira	g.pereira@ufv.br
MBI 796 (T1)	Microbiology of Fermented Foods	José Guilherme Prado Martin	guilherme.martin@ufv.br
SOL 625 ^{1,2} (T1, P1)	Soil Classification Systems CANCELED	José João Lelis Leal de Souza	jjlelis@ufv.br

Face-to-face courses Timetable: UTC -03:00

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00h			CIV 665		FIP 602
9:00h	ENT 669	ENT 669	ENT 669	ENT 669	FIP 602
			CIV 665		
10:00h			CIV 665		
11:00h			CIV 665		
12:00h					
13:00h					
14:00h	ENT 671	MBI 796			
15:00h	ENT 671	MBI 796			
16:00h	ENT 671	FIT 371			
		MBI 796			
17:00h	ENT 671	FIT 371			
		MBI 796			

Select only if you will be in the city where the course will be held (all at Viçosa campus).

OBS:

1. The timetable will be defined later by the lecturer after discussing it with the students enrolled.
2. Face-to-face and remote

All classes will take place from **August 7 to December 1th, 2023.**

TOPICS

CODE / NAME	TOPICS
ARQ 796 CFD Simulation with OpenFOAM	<ol style="list-style-type: none"> 1. Introduction to CFD. 2. Usage of OpenFOAM. 3. CFD and the built environment. 4. Interoperability with Rhino/Grasshopper. 5. Simulation configuration. 6. Parallelization. 7. Post-processing
BAN 604 Systematic Review	<ol style="list-style-type: none"> 1. Procedural steps for developing systematic reviews. 2. Delimitation of the object, proposition and research hypotheses. 3. Manipulation of databases and retrieval of scientific articles. 4. Screening method for scientific articles and eligibility criteria. 5. Data analysis and critical assessment of the risk of bias for animal studies. 6. Synthesis of knowledge, summary of evidence and graphical representation of data. 7. Formal presentation of the systematic review.
BAN 773 Social Insects	<ol style="list-style-type: none"> 1. Solitary and social insects; 2. Degrees of sociality; 3. Communication, foraging and defense in social insects; 4. Caste determination; 5. Evolution of sociality.
BIO 610 Cell Biology	<ol style="list-style-type: none"> 1. Introduction to the cell. 2. Membranes: structure and transport. 3. Energy conversion: Mitochondrion and Chloroplast. 4. Cytoskeleton. 5. Cell compartments and protein sorting. 6. Nucleus. 7. Cell cycle.
BIO 660 Parasite-Vector Interactions	<ol style="list-style-type: none"> 1. Dipterans and triatomines of medical and veterinary importance. 2. Salivary gland and salivary properties of hematophagous insects. 3. Colonization and invasion of the digestive system by pathogens. 4. Mosquito-Plasmodium interaction. 5. Sandfly-Leishmania interactions. 6. Immune response. 7. Mechanisms of transmission of parasites to the vertebrate host.
BQI 602 Biosafety	<p>Concepts and application of biosecurity applied to laboratories, hospitals and environment.</p>

BQI 700

Structures and
Functions of
Macromolecules

Structure and function of carbohydrates, nucleic acids (DNA and RNA), lipids and proteins.

BQI 702

Biochemistry and
Biotechnology of
Biomolecules

1. Structure.
2. Production and purification.
3. Applied technology.

BQI 760

Bioinformatics I

1. Genome sequencing.
2. RNA seq.
3. Proteomics.
4. Metabolomics.

CIV 665

Eco-efficient
construction and
building materials

Face-to-face

1. Introduction
2. Toxicity of the Construction and Building Materials
3. Energy
4. Life-Cycle Assessment of Construction and Building Materials
5. Performance Assessment of Construction and Building Materials
6. State-of-the-Art on the Strategies for Obtaining More Sustainable Construction and Building Materials
7. State-of-the-Art on the Utilization of Waste in Construction and Building Materials

ENT 669

Insecticide
(Eco)Toxicology

Face-to-face

1. General Toxicology;
2. Insecticides in the Environment;
3. Insecticides within the Individual;
4. Population Effects;
5. Community Effects;
6. Measurement and Interpretations of Ecological Effects;
7. Ecological Risk Assessment.

ENT 671

Biological Control of
Arthropods

Face-to-face

1. Concepts, terminology and history of biological control.
2. Classic biological control.
3. Conservative biological control.
4. Augmentative biological control.
5. Ecological bases for biological control.
6. Food webs.
7. Predators.
8. Parasitoids.
9. Pathogens.
10. Risks of biological control.
11. Integration of biological control with other control methods.
12. Biological control in Brazil and abroad.

FIP 602

Plant Disease

Epidemiology

Epidemiology

Face-to-face and remote

FIT 371

Plant Biotechnology

Face-to-face

1. Introduction to plant biotechnology;
2. Trait discovery;
3. Product development;
4. Biosafety and regulatory issues;
5. Case studies.

FIT 679

Biotechnology Applied to Plant Breeding

1. Introduction to biotechnology;
2. Identification of molecular markers;
3. Application of molecular markers;
4. Gene discovery and validation;
5. Transgene and gene editing;
6. Molecular breeding.

FIT 796

Nutritional Diagnosis of Plants

1. Essential plants nutrients – a review.
2. Applications of plant tissue analysis on nutritional status and fertilizers recommendation.
3. Leaf diagnosis.
4. Evaluation of the nutritional status of plants by critical level, sufficiency range, balanced Kenworthy indices, integrated diagnosis and recommendation system - DRIS, method of nutritional composition and mathematical chance.
5. Tissue testing and sap analysis.
6. Official fertilizer recommendation tables: fundamentals, construction and use.
7. Nutrient recommendation by modeling the nutritional balance of the soil-plant system.

LET 604

Portuguese for Foreigners

1. Listening comprehension and analysis of oral texts, in Portuguese.
2. Production of oral texts.
3. Analysis of academic written texts.
4. Reading and interpretation of written texts.
5. Writing texts related to several academic genres (abstracts, conference presentations, bibliographical essays, journal articles, conference proceedings, etc.)
6. Vocabulary and grammar.
7. Preparation for the Portuguese language proficiency exam for foreigners (Celpe-bras).

MBI 796

Microbiology of Fermented Foods

Face-to-face

1. History of fermented food production
2. Fermenting microorganisms: bacteria, filamentous fungi and yeasts
3. Fermentation types and their relevance for food production
4. Methods for fermented food studies
5. Fermented foods and health
6. Fermented foods: characterization, microbiology and nutrition of the main groups of fermented foods (fruits and vegetables, dairy products, unconventional alcoholic beverages, non-alcoholic beverages, legumes and cereals, fish and meat)

SOL 625

Soil Classification
Systems

Face-to-face and remote

1. Soil description according to Soil Taxonomy and World Reference Base for soil resources.
2. World Reference Base for soil resources.
3. Soil Taxonomy

VET 750

Foodborne Pathogens
and Diseases

1. Epidemiology of foodborne diseases;
2. Characterization of foodborne pathogens and diseases;
3. Detection and enumeration of foodborne pathogens;
4. Impacts of foodborne diseases;
5. Prevention of foodborne diseases;
6. Trends in food safety.

VET 775

Clinical Biochemistry
Applied to Veterinary
Medicine

1. Concepts of normality in clinical biochemistry;
2. Proteins, proteomics and dysproteinemias;
3. Liver function;
4. Kidney function;
5. Laboratory evaluation of endocrinopathies.

VET 791

Stem Cells in Tissue
Regeneration

1. Stem cell definition and characterization.
2. Stem cell biology.
3. Effects of stem.
4. Influence of the microenvironment part 1: source.
5. Stem cell harvest, culture and expansion.
6. Influence of the microenvironment part 2: host.
7. Matrix and therapeutics.
8. Specific tissues.

ZOO 792

Animal Breeding and
Genetics

- Definition of animal breeding:
- How can animal breeding help in animal production?
 - Genetic parameters in animal breeding.
 - Correlation, inbreeding and crosses.
 - Genetic and Genomic evaluation.
 - Genomics applied to animal breeding.
 - Breeding and genomics applied to the main livestock species: Cattle (beef and milk), pigs, poultry, horses.