

Online Courses in English at UFV

Term: 2023-1

When will classes take place?

- **March 6 - June 30, 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 diploma holder.)**
- **Diploma holders:** individuals holding a bachelor's degree granted by any Higher Education Institution.

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

Steps for the application process:

1. Before **February 3rd, 2023**, fill up the application form, uploading the required documentation:
 - a. For **academic mobility** students: <https://forms.gle/FxK8Gm4Y3EeGNRuR6>
 - b. For **diploma holders**: <https://forms.gle/qQrbRCo1pAkQhHCw6>
2. The coordinator of each UFV requested course will evaluate your application, based on your curriculum vitae and transcript of records.
3. Those who have their registration approved and the registration made, will receive an email by **March 3, 2023** with the access information to the UFV systems to participate in the courses.
If you don't receive this email, it is because you were not selected.
4. Classes will start on **March 6**, 2023.

5. Required documents for all candidates (to be attached to the registration form):

- a) Copy of the Undergraduate/Bachelor Diploma and Academic Transcript (if you have it);
- b) Copy of the Master's Diploma and Academic Transcript (if you already have it);
- c) Copy of the Doctoral Diploma and Academic Transcript (if you already have one);
- d) 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**);
- e) [Nomination letter](#) - **mandatory** for Academic Mobility candidates;
- f) Copy of National Identity Card (passport preferred for foreign applicants);
- g) Copy of CPF (for Brazilians only);
- h) Copy of Voter Registration Card (for Brazilians only);
- i) Copy of Military Document (for Brazilian men only).

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.

Remote Courses

CODE	NAME	LECTURERS	
CBF 770 (T1)	Plant Stress Physiology	Eduardo Gusmão Pereira	egpereira@ufv.br

CIV 642 ¹ (T1)	Biological wastewater treatment processes	Ann H. Munteer	ann@ufv.br
ELT 651 (T1, P1)	Image Processing NEW TIMETABLE	Alexandre S. Brandão 2a 9 às 12	alexandre.brandao@ufv.br
FIT 632 (T1, P1)	Plant Cell and Tissue Culture	Sérgio Yoshimitsu Motoike	motoike@ufv.br
FIT 678 (T2, P2)	Genetic Data Analysis for Plant Breeding	Guilherme da Silva Pereira	g.pereira@ufv.br
LET 635 ² (T1)	Literary and Cultural Gender Studies	Iara Christina Silva Barroca	iarabarroca@ufv.br
TAL 706 (T1)	Food Carbohydrates and Bioactive Compounds	Frederico Barros	fredbarros@ufv.br
ZOO 492 ¹ (T1)	Animal Breeding and genetics	Simone E. F. Guimarães	sfacioni@ufv.br
LET 790 ¹ (T1)	Brésil-France: Des Passeurs Culturels au XIXe Siècle (this course will be taught in French)	Dirceu Magri	dirceu.magri@ufv.br
SOL 649 (1) NEW COURSE	Soil Management in the Tropics NEW COURSE	Teógenes Senna de Oliveira	teo@ufv.br

Remote courses Timetable: UTC -03:00

	Monday			Tuesday	Wednesday	Thursday	Friday
8:00h	FIT 632	SOL 649	ELT 651				SOL 649
9:00h	FIT 632	SOL 649	ELT 651				

10:00h	ELT 651	FIT 678	FIT 678	TAL 706	CBF 770
11:00h	ELT 651	FIT 678	FIT 678	TAL 706	CBF 770
12:00h					CBF 770 (Until 12:30)
13:00h					
14:00h		FIT 632	LET 635 ²		
15:00h		FIT 632	LET 635 ²		
16:00h			LET 635 ²		
17:00h			LET 635 ²		

OBS:

- The timetable will be defined later by the lecturer after discussing with the students enrolled.
- For LET 635 the timetable may change according to Department demand.

 Period of classes: **March 6 to June 30, 2023.**

Face-to-face Courses

CODE	NAME	LECTURERS	
AGF 613 ³ (T1)	Soil Organic Matter	Dener Márcio da Silva Oliveira	dener.oliveira@ufv.br
BIO 650 ⁴ (T1)	Cellular Immunology	Leandro Licursi Oliveira	leandro.licursi@ufv.br

CBF 641 ⁵ (T1)	<u>Conservation and Management of Natural Ecosystems</u>	Leonardo Esteves Lopes	leonardolopes@ufv.br
CIV 660 (T1) NEW TIMETABLE	<u>Science and Technology of Building Materials</u>	José Maria Franco de Carvalho	josemaria.carvalho@ufv.br
VET 643 ⁴ (P1)	<u>Parasitological Diagnosis in Veterinary Medicine</u>	Jackson Victor de Araújo	jvictor@ufv.br

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

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00h			CIV 660 NEW TIMETABLE	CIV-660	
9:00h			CIV 660 NEW TIMETABLE	CIV-660	
10:00h		CIV-660	CIV 660 NEW TIMETABLE		
11:00h		CIV-660	CIV 660 NEW TIMETABLE		
12:00h					
13:00h					
14:00h					AGF 613
15:00h					AGF 613
16:00h					AGF 613
17:00h					AGF 613

OBS:

3. For **AGF 613** the timetable may change to condensed format according to demand

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

5. For **CBF 641** the timetable will be defined, but the course will be condensed from 24-29 April to 08-13 May, 2023.

All classes will take place from **March 6 to June 30, 2023**., except for **CBF 641**.

TOPICS

CODE / NAME	TOPICS
<p>AGF 613 Soil Organic Matter</p>	<ol style="list-style-type: none"> 1. Concepts on soil organic matter (SOM) 2. The nature of SOM 3. SOM sources and formation 4. SOM stabilization and persistence 5. Sampling and determination of C in soils 6. Techniques for physical fractionation of SOM 7. Evaluation of SOM by spectroscopic techniques 8. Use of stable isotopes in environmental studies 9. SOM and soil quality 10. Greenhouse gas (GHG) emissions in agriculture 11. Techniques for GHG sampling and quantification 12. Use of models to simulate SOM dynamics and GHG emissions
<p>BIO 650 Cellular Immunology</p>	<ol style="list-style-type: none"> 1. Cells and tissues of the immune system; 2. Basic protocols in immunology 3. The MHC 4. The TCell 5. Cellular immune response 6. Mechanisms of cellular immunity 7. Immunology and disease 8. Highlight in immunology.

CBF 641

Conservation and Management of Natural Ecosystems

1. Introduction to and history of Conservation Biology
2. Ecosystem services and its valuing
3. Habitat destruction and fragmentation
4. Overharvesting of natural resources
5. Invasive species and its impacts upon the biological communities
6. Global climate changes
7. Fire and biodiversity
8. Extinctions and how to prevent them
9. Conservation and management of ecosystems
10. Conservation and management of species and communities
11. Local people and their importance for conservation
12. Conservation and management: from theory to practice

CBF 770

Plant Stress Physiology

1. Plant stress responses
2. Metabolic adjustments and antioxidant metabolism
3. Light stress and thermic stress
4. Water stress and salinity
5. Nutritional stress and resistance to trace metals
6. Environmental pollution stress

CIV 642

Biological wastewater treatment processes

Course objectives are to be able to analyze and model biological wastewater treatment processes, plan and evaluate monitoring and operational control programs and biological process optimization studies. Topics that will be discussed include applicability of biological processes, microbial ecology and bioenergetics of wastewater treatment, quantification and characterization of microorganisms, bioreactor hydraulics and kinetics, wastewater treatability studies. Processes focused on: anaerobic reactors, stabilization ponds, activated sludge, trickling and submerged aerobic filters and biological nutrient removal.

CIV 660

Science and Technology of Building Materials

1. Introduction to Science and Technology of Building Materials
2. Bonding
3. The Architecture of Solids
4. Development of Microstructure
5. Surface Properties
6. Response of Materials to Stress
7. Failure and Fracture
8. Rheology of Fluids and Solids
9. Particulate Composites
10. Aggregates
11. Portland Cement-based Composites
12. Organic Binders-Based Composites
13. Advanced Characterization Techniques

ELT 651

Image Processing

1. Introduction
2. Fundamentals of Digital Imaging
3. Image Enhancement Techniques
4. Image Segmentation
4. Color Image Processing
5. Morphological Processing
6. Applications.

FIT 632

Plant Cell and Tissue Culture

1. Plant cell and tissue culture: definition, applications and history
2. Plant cell and tissue culture facilities and supplies: organization of a tissue culture laboratory, equipment and supplies and basic techniques
3. The components of plant tissue culture media: macro and micronutrients, and preparation of stock solutions
4. The components of plant tissue culture media: organic additions, osmotic and pH effects, and support systems
5. Plant Growth Regulators: auxins, cytokinins, gibberellins, ethylene, abscisic acid, their analogues and inhibitors. Preparation of stock solutions
6. Preparation of plant tissue culture media and sterilization techniques
7. Manipulation of plant cell and tissue in aseptic environment
8. Organogenesis: definition, organogenesis process, developmental sequences and examples
9. Somatic embryogenesis: zygotic embryogenesis, somatic embryogenesis, developmental stages of embryogenesis, synthetic seed technology and examples
10. Callus and cell culture: callus induction, callus culture and cell suspension culture
11. Micropropagation: applications, types, stages and estimation of yield of propagated plants

12. Somaclonal variation: epigenetic variation, genetic variation, applications of somaclonal variation, identification of somaclonal variation, examples
13. Haploid culture: importance of haploid, production of haploid in plants, production of haploid in vitro and anther culture
14. Embryo culture: type of embryo culture, applications of embryo culture, embryo culture techniques and factors affecting embryo culture
15. Protoplast culture: protoplast isolation and protoplast fusion
16. Production of virus-free plants: applications and techniques
17. Plant transformation: Agrobacterium-mediated transformation, DNA-mediated transformation
18. Germplasm preservation: importance and methods

FIT 678

Genetic Data Analysis
for Plant Breeding

1. Introduction to genetic data analysis
2. Molecular markers
3. Mapping populations
4. Linkage map
5. Quantitative trait loci mapping
6. Genetic data analysis of outcrossing species
7. Genome-wide association studies
8. Genomic selection
9. Genetic data analysis of autopolyploid species

LET 635

Literary and Cultural
Gender Studies

1. Genders and sexualities are powerful organizing forces: they shape identities and institutions, nations and economies, cultures and political systems.
2. Careful study of gender and sexuality thus explains crucial aspects of our everyday lives on both intimate and global scales.
3. Scholarship in Women's, Gender, and Sexuality Studies is interdisciplinary and wide ranging, drawing on history, literature, cultural studies, social sciences, and natural science to study genders and sexualities as they intersect with race, ethnicity, class, nationality, transnational processes, disability, and religion.

LET 790

BRÉSIL-FRANCE :
DES PASSEURS
CULTURELS AU XIXe
SIÈCLE

**(this course will be
taught in French)**

1. Initiation aux principaux points des rencontres
2. Les premiers contacts
3. La circulation de livres entre les deux pays
4. La traduction
5. Le passage au Portugal
6. La censure et le silence
7. La presse: système d'interrelations et de transfert culturel
8. La littérature dans la presse: système d'entrées d'idées et de courants esthétiques
9. La Mission artistique française: les peintres, le théâtre, les compagnies françaises à Rio, etc
10. Les français au Brésil: les exilés, les libraires, les humanistes

TAL 706

Food Carbohydrates
and Bioactive
Compounds

1. Monosaccharides.
2. Carbohydrate reactions.
3. Starch.
4. Carbohydrate nutrition and dietary fiber.
5. Bioactive compounds.
6. The protective effect of foods containing bioactive compounds on chronic noncommunicable diseases.

VET 643

Parasitological
Diagnosis in Veterinary
Medicine

1. Parasitological diagnosis of infections of the digestive system.
2. Parasitological diagnosis of infections of the genito-urinary system.
3. Parasitological diagnosis of infections of the integumentary system.
4. Parasitological diagnosis of infections of the circulatory system.
5. Parasitological diagnosis of infections of the respiratory system.
6. Parasitological diagnosis of infections of the nervous system.

<p>ZOO 492 Applied animal breeding and Genetics</p>	<ol style="list-style-type: none"> 1. Breeding programs in Poultry 2. Breeding programs in Pigs 3. Breeding programs in dairy cattle 4. Breeding programs in beef cattle 5. Breeding programs in small ruminants 6. Breeding programs in fishes
<p>SOL 649 Soil Management in the Tropics</p> <p>NEW COURSE</p>	<ol style="list-style-type: none"> 1. The natural environment of the Tropics; 2. Tropical soil mineralogy; 3. Tropical soil physics; 4. Soil acidity; 5. Soil organic carbon in the Tropics; 6. Tropical soil fertility; 7. Soils and Slash-and-Burn Agriculture; 8. Soil-surface and subsoil constraints in crop lands; 9. Soil management in rice cultivation; 10. Soil management in perennials and annuals crops; 11. Soils and livestock-based tropical systems; 12. Soils and Tropical Tree-Based Systems; 13. Natural reversion or not- reversion of the degradation; 14. Restoration of drastically altered soils - desertification, salinization, and natural and anthropogenic disasters.