

UFV ONLINE COURSES IN FOREIGN LANGUAGES

TERM: 2025-2

Since 2020, UFV has offered **free** online courses taught in foreign languages for students enrolled at other educational institutions and for degree holders. In the second semester of 2025, UFV will offer a total of 15 courses in various fields. This call outlines the requirements and procedures necessary for course enrollment.

1. Eligibility

To apply, you must fall into one of the following two categories:

- **Academic Mobility** - Candidates who are currently enrolled as students at other higher education institutions.
- **Degree Holder** - Candidates who already hold an undergraduate or bachelor's degree.

2. Application process

- Applications will be accepted **exclusively via an online form**, available at the following link: <https://forms.gle/DFswJ7FpXhvss11cA>.
- The application **deadline is on June 23th at 8 a.m. (BRT)**.
- Applications will be evaluated by the course coordinators, considering the curriculum vitae and academic transcript.
- Approved students will receive access information to UFV systems via email by August 8th.
- **Classes will take place between August 11th and December 5th, 2025.**

3. Required documents

To proceed with the application, the candidate must have all the documents listed below.

- Copy of National Identity Card (**passport** preferred for foreign applicants);
- Copy of **birth or marriage certificate with parent names** (if you do not have a document containing this information, **fill the [Declaration of Personal Information](#) document and stamp it at the Notary Office**);
- **[Nomination letter](#)** - **only** for Academic Mobility candidates - **“Self-nominated” candidates are not accepted for academic mobility**;

- Proof of current enrollment - **only** for Academic Mobility candidates - **The document must have been issued within the last 60 days.**
- Copy of the **Undergraduate/Bachelor Diploma** (if you have it);
- Copy of the Undergraduate/Bachelor **Academic Transcript** (if you have it);
- Copy of the **Master's Diploma** (if you have a Master's degree);
- Copy of the Master's **Academic Transcript** (if you have a Master's degree);
- Copy of the **Doctoral Diploma** (if you have a Doctoral degree);
- Copy of the Doctoral **Academic Transcript** (if you have a Doctoral degree);
- Copy of **CPF** (**mandatory** for Brazilian citizens; optional for other nationalities);
- Copy of **Voter Registration Card** (for Brazilians **only**);
- Copy of **Military Document** (for Brazilian men **only**);
- Face photo - recent photo, 3x4 format, with light background.

Only documents in English or Spanish will be accepted without translation. For other languages, translation is required.

4. Other important information

The program does not confer a degree. Students who complete courses will receive an official transcript of records. An official transcript for completed courses may allow the credits to be reused later in Master's or PhD programs at UFV.

The selected courses must be related to your area of expertise.

5. Available online courses

Code	Course name	Lectures	E-mail
BIO 610	Cell Biology	Carolina Gonçalves Santos	cgsbio@ufv.br
CIV 643	Aquatic toxicology	Ann H. Mounteer	ann@ufv.br
CIV 665	Eco-efficient Construction and Building Materials	José Maria Franco de Carvalho	josemaria.carvalho@ufv.br
CIV 670	Introduction to innovation and technological entrepreneurship in engineering	José Maria Franco de Carvalho	josemaria.carvalho@ufv.br

Code	Course name	Lectures	E-mail
ENG 688	Anaerobic Digestion of Wastes	André Pereira Rosa	andrerosa@ufv.br
FIT 614	Nutritional diagnosis of plants	Junia Maria Clemente	junia.clemente@ufv.br
FIT 664	Homeopathy in Agriculture	Vicente Wagner Dias Casali	vwcasali@ufv.br
FIT 666	Epigenetics and Plants	Vicente Wagner Dias Casali	vwcasali@ufv.br
FIT 677	Breeding Medicinal and Aromatical Plants	Vicente Wagner Dias Casali	vwcasali@ufv.br
FIT 679	Biotechnology Applied to Plant Breeding	Guilherme da Silva Pereira	g.pereira@ufv.br
MAT 791	Symbolic Dynamics and Deterministic Chaos	Pouya Mehdipour	pouya@ufv.br
SOL 627	International Systems of Soil Classification	Jose Joao Lelis Leal de Souza	jjlelis@ufv.br
TAL 706	Food Carbohydrates and Bioactive Compounds	Frederico Barros	fredbarros@ufv.br
TAL 751	Microencapsulation of probiotics, prebiotics, and other functional compounds for application in different food matrices	Érica Nascif Rufino Vieira	erica.vieira@ufv.br
ZOO 762	Genomics applied to animal breeding	Renata Veroneze and Daniele Botelho Diniz Marques	renata.veroneze@ufv.br daniele.diniz@ufv.br

6. Course timetable (BRT)

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00h			CIV 665	CIV 670	
9:00h	FIT 614		CIV 665	CIV 643	
	SOL 627		SOL 627	CIV 670	
	ZOO 762			ZOO 762	
10:00h	BIO 610	FIT 679	CIV 665	BIO 610	ENG 688
	FIT 614			CIV 643	
	FIT 679			TAL 706	
	MAT 791		SOL 627	ZOO 762	
	SOL 627				
	ZOO 762				
11:00h	BIO 610	FIT 679	CIV 665	BIO 610	ENG 688
	FIT 614		SOL 627	CIV 643	
	FIT 679			TAL 706	
	MAT 791				
	SOL 627				
12:00h					ENG 688

The timetables for the following courses will be determined later between the professors and the registered students: FIT 664; FIT 666; FIT 677; TAL 751.

7. Course Content

Code / Course Name	Content
BIO 610 Cell Biology	<ol style="list-style-type: none"> 1. Characteristics of eukaryotic cell Membranes. 2. Mitochondrion Chloroplast Compartments. 3. Protein sorting Nucleus Cell cycle Cytoskeleton.
CIV 643 Aquatic toxicology	<ol style="list-style-type: none"> 1. Introduction to aquatic ecotoxicology, principle applications and pertinent legislation. 2. Main classes of organic and inorganic aquatic pollutants. 3. Dynamics of pollutants in aquatic environments, abiotic and abiotic processes. 4. Bioavailability, biotransformation and bioaccumulation of organic and inorganic pollutants. 5. Physiological, biochemical and histological responses at organism, population and community levels. 6. Laboratory evaluation of acute and chronic aquatic toxicity and quantification of responses (LCx, NOEC, LOEC). 7. Field studies: model ecosystems, bioindicators and biomarkers. 8. Aquatic toxicity and ecological risk assessment.
CIV 665 Eco-efficient Construction and Building Materials	<ol style="list-style-type: none"> 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.
CIV 670 Introduction to innovation and technological entrepreneurship in engineering	<ol style="list-style-type: none"> 1. Introduction. 2. Technology entrepreneurship in engineering. 3. Considerations on viability. 4. Design and testing of sustainable materials and products. 5. Start-up exploration and incubation.
ENG 688 Anaerobic Digestion of Wastes	<ol style="list-style-type: none"> 1. Fundamentals of anaerobic digestion. 2. Biomass in anaerobic systems. 3. Anaerobic technologies for liquid effluents and solid waste treatment. 4. Byproducts of anaerobic digestion and resource utilization.

Code / Course Name	Content
FIT 614 Nutritional diagnosis of plants	<ol style="list-style-type: none"> 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, Diagnosis and Recommendation Integrated. 5. System (DRIS), Compositional Nutrient Diagnosis (CND) and mathematical chance. 6. Tissue testing and sap analysis. Official fertilizer recommendation tables: fundamentals, construction and use. 7. Nutrient recommendation by modeling the nutritional balance of the soil-plant system.
FIT 664 Homeopathy in Agriculture	<ol style="list-style-type: none"> 1. Historic. 2. Fundamentals and Applications. 3. Homeopathic Pharmacopoeia. 4. Agroecosystems and Homeopathy. 5. Technological Clinic. 6. Repertorization. 7. Crop Management. 8. Isopathic Solutions. 9. Experimental Results.
FIT 666 Epigenetics and Plants	<ol style="list-style-type: none"> 1. History and Fundamentals. 2. DNA methylation. 3. Epigenetic Determinations. 4. Histone Variants. 5. Epigenetic Systems of Inheritance. 6. Epigenetic Markers. 7. Variability and Epigenetics. 8. Epigenetic Regulation in Plants.
FIT 677 Breeding Medicinal and Aromatical Plants	<ol style="list-style-type: none"> 1. Priorities in Breeding Programs. 2. Theoretical Reference. 3. Pharmaco-Active Natural Products. 4. Genetic Resources. 5. Reproduction Systems. 6. Breeding Methods. 7. Studies on Inheritance. 8. Experimental Techniques. 9. Experiences in Breeding Programs.
FIT 679 Biotechnology Applied to Plant Breeding	<ol style="list-style-type: none"> 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.

Code / Course Name	Content
<p>MAT 791 Symbolic Dynamics and Deterministic Chaos</p>	<ol style="list-style-type: none"> 1. Introduction to general topology and metric spaces. 2. Discrete dynamical systems. 3. Devaney's definition of chaos. 4. Topological conjugacy. 5. Examples of chaotic maps. 6. One-sided and two-sided shift spaces. 7. Shift maps and shifts of finite type. 8. Graph representations of shifts of finite type. 9. Full shifts as chaotic dynamical systems. 10. Higher block shifts. 11. Sliding block codes. 12. Cellular automata. 13. The Curtis–Hedlund–Lyndon theorem. 14. Wolfram's classification of cellular automata. 15. Conway's Game of Life. 16. Hyperbolic dynamics and Smale's horseshoe map. 17. Topological and Markov partitions. <p>Symbolic encoding of Smale's horseshoe map.</p>
<p>SOL 627 International Systems of Soil Classification</p>	<p>Soil genesis. Soil sampling and description. Diagnostic materials, properties and horizons according to World Reference base for soil resources and Soil Taxonomy. Soil Classification.</p>
<p>TAL 706 Food Carbohydrates and Bioactive Compounds</p>	<p>Monosaccharides. Carbohydrate reactions. Starch. Carbohydrate nutrition and dietary fiber. Bioactive compounds. The protective effect of foods containing bioactive compounds on chronic noncommunicable diseases.</p>
<p>TAL 751 Microencapsulation of probiotics, prebiotics, and other functional compounds for application in different food matrices</p>	<p>Functional compounds. Probiotics, prebiotics, and symbiotics. Microencapsulation technologies for functional compounds. Application of functional microparticles in different food matrices.</p>
<p>ZOO 762 Genomics applied to animal breeding</p>	<p>SNP markers and linkage disequilibrium. Genotype quality control. Genotype imputation. Genomic prediction and genome wide association. Relationship matrices. RRBLUP, GBLUP and ssGBLUP. Genomic prediction accuracy, bias, and dispersion. Bayesian methods for genomic prediction and association. Breeding value accuracy. Post GWAS analysis.</p>