



Online Graduate Courses at Federal University of Viçosa (UFV), Brazil

The Forum for Agricultural Research in Africa (FARA), in partnership with the Universidade Federal de Viçosa (UFV), Brazil, calls for applications from interested African scientists to offer non-degree, virtual mobility online courses taught in English by UFV. This training is part of the mobility component of FARA's Holistic Empowerment for Livelihoods Program (HELP).

Send a downloaded copy of your form to arifa@faraafrica.org

Registration Link: <https://bit.ly/3e9QK9y>

Application (exchange students or lecturers)

Application procedure

Eligibility

Be a citizen of one of any of the African Union Member states;

Be enrolled in any higher institution in the world as a postgraduate student (for exchange students) or a lecturer in an African institution

There is no limit of age for the short courses;

1. Candidates must be enrolled in a higher education institution, preferably in a graduate program (exchange student); OR must be a lecturers in a higher education institution.
2. Application
3. Candidates are required fill and submit application along with the required documentation online on or before July 22, 2021,
 - a. For exchange students: <https://forms.gle/1ztPE4DUBjV11Jcv5>
 - b. For lecturers: <https://forms.gle/Pu6C92Z9xzeHmUaz5>
4. Candidates must be formally nominated by their home institution (by their heads of department or representative). Nomination letters must be sent to dri@ufv.br and copied to arifa@faraafrica.org. UFV does not accept "self-nominated" candidates.
5. The coordinators of each course will evaluate application, based on curriculum vitae and transcript of records.
6. Successful candidates will be contacted by UFV international office through their home

Benefits of the courses

- i. Access to free online teaching and learning materials
- ii. Increased knowledge in area of research
- iii. Inclusion in the alumni network of FARA IAR4D practitioners under FARA Post-fellowship plan;

MANDATORY

Good internet connection to follow the activities!

Courses

AREA	CODE	NAME	LECTURES	
Soil Science	SOL 735	Geosystems, Landscapes and Land Uses in Brazil and West Africa: Convergences and Scenarios	Carlos Schaefer	carlos.schaefer@ufv.br
Biology	BIO 610	Cell Biology	Carolina Gonçalves Santos	cgsbio@ufv.br
Biochemistry	BQI 700	Structure and Functions of Macromolecules	Gabriela Maitan-Al-fenas	gabriela.maitan@ufv.br
			Mari-sa Alves Nogueira Diaz	marisanogueira@ufv.br
			Andréa Ribon	abribon@ufv.br
			Tiago Mendes	tiagoaomendes@ufv.br
Animal Science	ZOO 765	Molecular Biology Applied to Animal Production	Simone Facioni	sfacioni@ufv.br
Computer Science	INF 600	Research Techniques in Computer Science	Alcione de Oliveira	alcione@ufv.br
Food Science & Technology	TAL 706	Food Carbohydrates and Bioactive Compounds	Frederico Barros	fredbarros@ufv.br
Plant Pathology	FIP 650	Plant Disease management	Franklin Machado	franklin.machado@ufv.br
	FIP 704	Methods in Molecular Plant Pathology	Murilo Zerbini	zerbini@ufv.br
			Sérgio Brommon-schenkel	shbromo@ufv.br
Economics	ERU 650	Macroeconomics Theory I	Graziella de Castro	graziella.magalhaes@ufv.br

AREA	CODE	NAME	LECTURES	
Plant Physiology	CBF 770	Plant Stress Physiology	Eduardo Gusmão Pereira	egpereira@ufv.br
Entomology	ENT 760	Insect Behaviour	Simon Elliot	selliot@ufv.br

Timetable: UTC -03:00

	Monday	Tuesday	Wednesday	Thursday	Friday
8:00h					
9:00h	ZOO 765	FIP 650			FIP 650
10:00h	BIO 610	FIP 650	BIO 610	TAL 706	FIP 650
	SOL735		INF 600		CBF 770
	ZOO 765				FIP 704
11:00h	BIO 610		BIO 610	TAL 706	CBF 770
	SOL735		INF 600		FIP 704
	ZOO 765				
12:00h					
13:00h					
14:00h	BQI 700	ERU 650	BQI 700	ERU 650	ENT 760
	SOL735		ZOO 765		
			ENT 760		
15:00h	BQI 700	ERU 650	BQI 700	ERU 650	ENT 760
	SOL735		ZOO 765		
			ENT 760		
16:00h					
17:00h					

TOPICS COVERED

SOL735 – Geosystems, Landscapes and Land Uses in Brazil and West Africa: Convergences and Scenarios (45h)

1. The physical environment of Brazil and West Africa – the Gondwana connection (10h).
2. Geomorphology, soils and landscapes in West Africa (4h).
3. Geomorphology, soils and landscapes in Brazil (6h).
4. The Human and social dimensions of West African and Brazilian societies (10 h).
5. Agricultural traditions in both margins of the Atlantic: the globalization of Tropical Plants (10 h).
6. Present and Future of Brazil and Africa interplays (5 h).

BIO 610 – Cell Biology (60h)

1. The main characteristics of the eukaryotic cells.
2. Structure and transport across membranes.
3. Structure and energy conversion in mitochondrion and chloroplast.
4. Compartments and protein sorting.
5. Nucleus.
6. Cytoskeleton.
7. Cell cycle.

BQI 700 – Structure and Functions of Macromolecules (60h)

Structure, functions, properties and methods of analysis of carbohydrates, lipids and membranes, nucleic acids, proteins and enzymes, including extraction techniques, chromatographic analysis and genetic engineering.

ZOO 765 – Molecular Biology Applied to Animal Production (75h)

1. Introduction to Molecular Biology.
2. Structure and function of nucleic acids.
3. DNA replication, transcription and translation.
4. “Omics” in animal production.
5. Use of biomarkers in animal production.
6. Genomic markers in animal production.
7. Phenotypic analysis of gene expression in animal production.
8. Non-Mendelian pattern of generation in animal production.
9. Genotype x environment interaction.
10. Genetically modified animals

INF 600 – Research Techniques in Computer Science (30h)

1. Notions of scientific methodology.
2. Computing research.
3. Computing research project.
4. Conducting computer research.
5. Presentation of research results.
6. Financing source.
7. Ethics in computer research.

TAL 706 – Food Carbohydrates and Bioactive Compounds (30h)

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

FIP 650 – Plant Disease Management (90h)

1. Concepts and definitions of plant disease control;
2. Epidemiological aspects of plant disease control;
3. Principles of plant disease control (exclusion, eradication, therapy, immunization, protection, avoidance);
4. Control methods (cultural, physical, resistance, biological and chemical);
5. Epidemiological implications of control measures;
6. Importance of decision making in plant disease management;
7. Integrated plant disease management.

FIP704 – Methods in Molecular Plant Pathology (60h)

1. Structure and function of macromolecules.
2. Nucleic acid replication and protein synthesis.
3. Recombinant DNA techniques.
4. Basics of bioinformatics.
5. Diagnosis of phytopathogens using molecular techniques.
6. Molecular markers.
7. Plant transformation for resistance to phytopathogens.
8. Genomics of phytopathogens.

ERU 605 – Macroeconomic Theory I (60h)

1. State-of-the-Art modern macroeconomics
2. Dynamic methods in macroeconomics
3. Exogenous growth models
4. Endogenous growth models
5. Stochastic growth models

CBF 770 – Plant Stress Physiology (45h)

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

ENT 760 – Insect Behaviour (45h)

1. Introduction to Insect Behaviour
2. Insects, Animals or Organisms?
3. Evolution.
4. Proximal and Distal Explanations.
5. Hypotheses and Assumptions.
6. Experimentation.
7. Control of Behaviour
8. Organization of behaviours.
9. Foraging and Optimization
10. Learning
11. Victim-Enemy Behaviour
12. Nutritional Ecology
13. Sensory Organs and Nervous System
14. Communication and signals
15. Acoustic communication
16. Semiochemicals
17. Reproduction
18. Dispersal
19. Haemotophagy in Insects
20. Life in Groups



Forum for Agricultural Research in Africa
(FARA) Secretariat
No. 9 Flower Avenue, New Achimota Mile
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PMB CT 173, Accra, Ghana
Telephone: +233 302 772823 / 302
779421 Fax: +233 302 773676 /

Email: info@faraafrica.org
Website: www.faraafrica.org

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