

Campus I - Rua José Bongiovani, nº 700 - Cidade Universitária - CEP: 19050 900 - Fone: (018) 3229 1000  
Campus II - Rodovia Raposo Tavares, Km 572 - Bairro Limoeiro - CEP: 19067 175 - Fone: (018) 3229 2000

## Graduate Program on

# Environment and Regional Development

(Recommended by CAPES / Brazilian Ministry of Education - Level 4)

## Presentation

The graduate program on Environment and Regional Development is recommended by CAPES (Brazilian Ministry of Education) and ranked at level 4, in a scale of 1 to 7. The overall goal of this course is to consolidate its role as a producer of research and knowledge aimed at interdisciplinary and contextual discussion of the process of regional development in face of the environmental issues.

Thus, the objective is to contribute to the formation of a professional with systemic and ethical vision, as well as with multidimensional understanding of the regional development process and domain of conceptual and methodological tools that are considered essential for the assessment of environmental impacts and environmental planning. This profile moves to meet the current needs of reorientation of public policies and strategies for the environmental and social development in the region.

The proposed course aims to adopt a multidisciplinary view in the approach of the knowledge. It is a referential that embraces all disciplines (multidisciplinary view) integrating them and completing them at the same time. This purpose can be achieved by training of professional researcher, program organization around several multidisciplinares concepts, such as: complexity, interaction, interdependence, self-organization, systemic organization and evolution. These concepts are consistent with modern conceptions, guided by a complex and systemic view of reality, since the different fields of human knowledge are involved in solving environmental problems.

The multidisciplinary approach is still under construction everywhere. Thus, this graduate program will seek to propose, through its disciplines, a multidisciplinary discussion, approaching the research carried out in different areas towards this common referential. For this purpose, they will be used as didactic and methodological

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strategies: seminars, studies, debates, and other forms that allow the integration of knowledge and formal experiences among the researchers and students involved, aiming at the desired integrated construction.

Recognized by Brazilian Ministry of Education (MEC) through ordinance n. 1324 published on the Official Diary of Union (D.O.U.) on 09/11/2012, in view of the recommendation CNE/CES n. 179/2012 – D.O.U on 31/07/2012.

## **Concentration area**

Environmental Sciences

## **Objectives**

- Investigate the environmental impact on the municipalities and Western São Paulo region;
- Analyze the contribution of loco-regional policies for socio-economic development from the perspective of sustainability;
- Characterize and analyze the process of occupation of the territory and consequences for the environment, focusing on the factors that impact the surface and groundwater resources; treatment of solid waste and the different contamination processes in urban areas;
- Investigate the ways that companies of goods and services deal with the environmental and social issues required by society;
- Characterize and analyze actions in environmental education as a critical process, questioner of the economic, social and political structures;
- To train professional researchers to: assess, diagnose and propose solutions to environmental problems, through dissemination of concepts and application of techniques necessary for a sustainable interaction with the environment; through application of methodologies and development of technologies that enable reduce the

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environmental impact of human activities; and by creating and providing a network of knowledge that can be used by different social agents.

## Target Audience

Professionals of Life Sciences, Health Science. Earth Sciences, Humanities, Exact Sciences and Applied Sciences who have in the exercise of interdisciplinarity the main challenge, aiming to understand the complexity of the problems generated by the various social relationships and their interaction with the environment.

## Postdoctoral Program

The Graduate Program in Environment and Regional Development offers a postdoctoral position for the development of research projects related to the area of concentration in Environmental Sciences - Research lines: i) Assessment and Analysis of Environmental Impact and ii) Environmental Planning and Regional Development, with the granting of a scholarship for a period of twelve (12) months. Following the evaluation of performance in research, this post-doctoral fellowship may be renewed up to a maximum of sixty (60) months. (National Program of Postdoctoral CAPES - Ordinance No. 86/2013 / Notice no 007/2015 - MTL).

## Research lines

### 1 – Assessment and Analysis of Environmental Impact

This research line aims to conduct studies and research related to the analysis of environmental impacts caused by predominantly anthropogenic factors, considering different aspects of the ecosystem and social impacts. It emphasizes also on investigation of ecological processes, geological, geomorphological and climatological related to environmental problems and on the development of explanatory models for the mechanistic understanding of the environmental impacts.

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## 2 – Environmental Planning and Regional Development

This research line aims to develop studies on the following themes: the analysis of environmental public policies targeting to regional development; the development of environmental management strategies; the characterization of ecosystems and environmental planning; management strategies and environmental conservation. These studies intend to analyze the impact of knowledge and information management in the environmental planning and regional development, as well as in economic and social development and its environmental impact.

## Curriculum

### First Semester (from March to June)

Obligatory disciplines	Workload	Credits	Professor(s) in charge
<b>Research Methodology: an Interdisciplinary Dialogue</b>	60	4	Dr. Alba Regina Azevedo Arana
<b>Special Topics in Environment and Regional Development</b>	30	2	Dr. Maíra Rodrigues Uliana Dr. Rebeca Delatore Simões Dr. Marcus Vinicius P. Rodrigues
<b>Principles of the Natural Environment Organization</b>	60	4	Dr. Patrícia Alexandra Antunes Dr. Paulo Antônio da Silva
<b>Society, Nature and Culture</b>	60	4	Dr. Munir Jorge Felício

Elective disciplines	Workload	Credits	Professor(s) in charge
<b>Line 1 - Assessment and Analysis of Environmental Impact</b>			
Applied Environmental Health	60	4	Dr. Marcus Vinicius P. Rodrigues Dr. Ana Paula Alves Favareto Dr. Renata Calciolari Rossi e Silva
Use of Waste in Recovery of Degraded Soil	60	4	Dr. Carlos Henrique dos Santos

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Topics of Applied Statistics	60	4	Dr. Rebeca Delatore Simões Dr. Hamilton Mitsugu Ishiki Dr. Maíra Rodrigues Uliana
Wastewater Treatment	60	4	Dr. Patrícia Alexandra Antunes

<b>Elective disciplines Line 2 - Environmental Planning and Regional Development</b>	<b>Workload</b>	<b>Credits</b>	<b>Professor(s) in charge</b>
Environment and Solidarity Economy	60	4	Dr. Edilene Mayumi M. Takenaka
Geoprocessing in Environmental Applications	60	4	Dr. Ana Paula Marques Ramos
Topics in Sustainable Production System: Principles of Agroecology	60	4	Dr. Carlos Henrique dos Santos
Legislation and Analysis of Environmental Impact	60	4	Dr. Munir Jorge Felício

### Second semestre (from August to November)

<b>Elective disciplines Line 1 - Assessment and Analysis of Environmental Impact</b>	<b>Workload</b>	<b>Credits</b>	<b>Professor(s) in charge</b>
Science of Materials	60	4	Dr. Rebeca Delatore Simões
Environmental Biomonitoring	60	4	Dr. Antonio Fluminhan Jr.
Interactions Parasite Host Environment	60	4	Dr. Marcus Vinicius P. Rodrigues
Environmental Chemistry	60	4	Dr. Patrícia Alexandra Antunes
Computational Chemistry	60	4	Dr. Hamilton Mitsugu Ishiki
Waste and Environmental Pollution	60	4	Dr. Alba Regina Azevedo Arana Dr. Patrícia Alexandra Antunes Dr. Rebeca Delatore Simões
Environmental Toxicology	60	4	Dr. Ana Paula Alves Favareto Dr. Patrícia Alexandra Antunes
Theory of Complex Systems	60	4	Dr. Edson Assunção Mareco

<b>Elective disciplines Line 2 - Environmental Planning and Regional Development</b>	<b>Workload</b>	<b>Credits</b>	<b>Professor(s) in charge</b>
Health, Environment and Regional Development	60	4	Dr. Luis Euribel Prestes Carneiro Dr. Marcus Vinicius P. Rodrigues
Sustainable Development and Environmental Planning	60	4	Dr. Alba Regina Azevedo Arana Dr. Munir Jorge Felício Dr. Paulo Antônio da Silva

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Geosciences Applied to Environmental Planning: Use of Remote Sensing	60	4	Dra. Ana Paula Marques Ramos
Environmental Public Policies and Waste Management	60	4	Dra. Edilene Mayumi M. Takenaka
Agrarian Issues and Territorial Development	60	4	Dr. Munir Jorge Felício
Sugar Mills and Distilleries of Bioethanol and its Interactions with the Environment	60	4	Dr. Tadeu Alcides Marques

## Faculty and Research Lines

Faculty (Name, Email and Major)	Research Lines
ALBA REGINA AZEVEDO ARANA <a href="mailto:alba@unoeste.br">alba@unoeste.br</a> GEOGRAPHY	Environmental education; Urban green areas; Solid Waste; Environmental planning; Cooperatives; Solidarity Enterprises.
ANA PAULA ALVES FAVARETO <a href="mailto:anafavareto@unoeste.br">anafavareto@unoeste.br</a> BIOLOGICAL SCIENCES	Biology and toxicology of reproduction and development; Toxicological analysis of environmental contaminants; Endocrine disruptors.
ANA PAULA MARQUES RAMOS <a href="mailto:anaramos@unoeste.br">anaramos@unoeste.br</a> CARTOGRAPHIC ENGINEERING	Cartography, specializing in thematic mapping; Design, representation and production of thematic maps for the investigation of environmental phenomena.
ANTONIO FLUMINHAN JUNIOR <a href="mailto:fluminhan@unoeste.br">fluminhan@unoeste.br</a> AGRONOMIC ENGINEERING	Environmental biomonitoring; Experimental Mutagenesis; Environmental education; Molecular and classical genetic studies.
CARLOS HENRIQUE DOS SANTOS <a href="mailto:chenrique@unoeste.br">chenrique@unoeste.br</a> AGRONOMY	Phytoremediation of contaminated soils, Heavy metals in agriculture
DANIELA VANESSA MORIS <a href="mailto:danimoris@gmail.com">danimoris@gmail.com</a> BIOMEDICINE	Epidemiological and clinical studies; Tropical Diseases, Microbiology; genotyping; sensitivity to antifungal agents.
DANILLO ROBERTO PEREIRA <a href="mailto:danielopereira@unoeste.br">danielopereira@unoeste.br</a>	Lighting models; Generation of photorealistic images; Modeling of biological structures; Modeling

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COMPUTER SCIENCE	of deformation in non-rigid bodies; Ligning three-dimensional models in images; Multiscale methods; Finite element method; Machine learning, SVM, OPF; Adaptive refinements; Delaunay refinements; Indirect method of mesh generation and image processing.
EDILENE MAYUMI MURASHITA TAKENAKA <a href="mailto:edilene@unoeste.br">edilene@unoeste.br</a> ECONOMY	Solid waste management; Labor organization; Waste pickers
EDSON ASSUNÇÃO MARECO <a href="mailto:edson@unoeste.br">edson@unoeste.br</a> BIOLOGICAL SCIENCES	Molecular biology; Genetic markers; Bioinformatics; Gene sequencing.
HAMILTON MITSUGU ISHIKI <a href="mailto:hamilton@unoeste.br">hamilton@unoeste.br</a> CHEMISTRY	Organic chemistry; Computer studies; Computational models
LUIZ EURIBEL PRESTES CARNEIRO <a href="mailto:luiz@unoeste.br">luiz@unoeste.br</a> MEDICINE	Epidemiology of tropical diseases; Host-parasite relationships.
MAÍRA RODRIGUES ULIANA <a href="mailto:maira@unoeste.br">maira@unoeste.br</a> AGRONOMIC ENGINEERING	Characterization of agricultural waste for feed and energy use; Development of food products through the use of agricultural wastes; Use of agricultural by-products for energy production.
MARCUS VINÍCIUS PIMENTA RODRIGUES <a href="mailto:marcusvinicius@unoeste.br">marcusvinicius@unoeste.br</a> BIOMEDICINE	Molecular epidemiology of bacterial; Parasite-host relationships; Medical and environmental microbiology; Infectious diseases related to the environment.
MUNIR JORGE FELICIO <a href="mailto:munir@unoeste.br">munir@unoeste.br</a> GEOGRAPHY - PHILOSOPHY	Social struggles; Regional Development; Pontal do Paranapanema.
PATRÍCIA ALEXANDRA ANTUNES <a href="mailto:antunes@unoeste.br">antunes@unoeste.br</a> CHEMISTRY	Contaminated soils; Environmental biomonitoring; Heavy metals; Water resources; Movies nanostructures with biological materials; Biomaterials.
PAULO ANTONIO DA SILVA <a href="mailto:pauloantonio@unoeste.br">pauloantonio@unoeste.br</a> BIOLOGICAL SCIENCES	Ecology; Wildlife and Biodiversity Conservation in Anthropogenic landscape.
REBECA DELATORE SIMÕES <a href="mailto:rebeca@unoeste.br">rebeca@unoeste.br</a> MATHEMATICS	Biomaterials and characterizations.
RENATA CALCIOLARI ROSSI E	Lung disease and their relationship with air

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SILVA <a href="mailto:renatacalciolari@terra.com.br">renatacalciolari@terra.com.br</a> PHYSIOTHERAPY	pollution.
ROGÉRIO GIUFFRIDA <a href="mailto:rgiuffrida@unoeste.br">rgiuffrida@unoeste.br</a> VETERINARY MEDICINE	Infectious diseases and their relationship to the environment; Sanitation applied to human health.
SUZANA CHIARI BERTOLLI <a href="mailto:scbertolli@hotmail.com">scbertolli@hotmail.com</a> BIOLOGICAL SCIENCES	Plant Biology; Physiology with emphasis on vegetable production; Ecophysiology; Plant Behavior; Plant- environment interactions.
TADEU ALCIDES MARQUES <a href="mailto:tmarques@unoeste.br">tmarques@unoeste.br</a> AGRONOMIC ENGINEERING	Sugar and ethanol production; Evaluation in the distribution of plant bioenergy