Code: ECO 3300-000 (Master's) and ECO510022 (Ph.D.)

Course Name: Field Ecology - Master's Class and Ph.D. Class

Credit Hours: 08 credits for Master's and 8 credits for Ph.D. (Total Class Hours: 120 theoretical-practical hours)

Responsible Instructors: Dr. Tatiana Leite, Dr. Bruno Figueiredo, Dr. Selvino Neckel, Dr. Paulo Pagliosa, Dr. Eduardo Giehl, and Dr. Athila Bertoncini

Participating Professors: Faculty members of PPGECO/UFSC.

Collaborating Postdoctoral Researchers: Dr. Luis Carlos P. de Macedo Soares

Semester/Year: 02/2023

Period: October 17th to October 31st, 2023.

Schedule: Daily

Number of vacancies: 20

Class Location: Centro de Estudos e Pesquisas Ambientais – CEPA – Vila da Glória, São Francisco do Sul – UNIVILLE.

Prerequisites: "Population Ecology," "Community Ecology and Ecosystems"

Course Description:

Field practices conducted in groups and/or individually under the guidance of experts. Emphasis on sampling design, data collection and analysis in the field, in situ experiments, discussion of results, and oral and written presentations.

Teaching Methodology:

The course will be held at the Centro de Estudos e Pesquisas Ambientais (CEPA) in Vila da Glória, São Francisco do Sul-SC, which provides infrastructure for accommodation, meals, and laboratory work, as well as a meeting room. At CEPA and its surroundings, projects will be conducted in terrestrial environments (Atlantic Forest biome),

freshwater systems (streams and lakes), and marine environments (rocky shores, estuaries, mangroves, and/or beaches). Three days of work will be allocated for each research area (terrestrial, freshwater, and marine/estuarine), with 2 days dedicated to data collection/analysis and one day for analysis/presentation. The last 4 days will be dedicated for students conduct independent projects.

Field research projects will be simultaneously developed by four groups of five students per research area, each group supervised by a faculty member, resulting in a total of 12 supervised projects per research area. After the supervised projects, there will be three days for the development of independent projects (in pairs), under the guidance of a professor or a postdoctoral researcher (10 projects). In addition to field activities, students are required to prepare an expanded abstract for each project (n=4) developed, consisting of 3 to 5 pages. The expanded abstract should include introduction (including objectives and questions/hypotheses), methods, results, discussion, and references, and should not exceed the limit of two figures and one table. Guest lectures by invited professors are also scheduled throughout the course. Prior to the field period, at UFSC, there will be Thursday afternoon classes dedicated to field logistics and materials preparation.

Assessment:

Students will be evaluated based on their participation and commitment to research projects, the quality of the submitted expanded abstracts, and their presentations. All assessment components have equal weight in the final grade calculation.

Course Outline and Schedule (subject to minor modifications):

September 28th - First Field Ecology Course Meeting

October 5th - 2:00 PM to 4:00 PM (PG-01) – Preparatory Meeting - material organization

October 17th - Departure to the Centro de Estudos e Pesquisas Ambientais – CEPA – Vila da Glória, São Francisco do Sul. Area recognition and lecture by a professor from Univille;

October 18th-20th - Fieldwork for supervised projects in terrestrial environments and presentations

October 21st-23rd - Fieldwork for supervised projects in freshwater systems and presentations

October 24th - Day for lectures and scheduled visits

October 25th-27th - Fieldwork for supervised projects in marine environments and presentations

October 28th-30th - Development of independent projects and presentations

October 31st - Return to Florianópolis

Bibliography:

The instructors will provide digital versions of the required materials when presenting the project activities to the departments and course committees.

Additional Bibliography:

- BEGON, M. & MORTIMER, M. 1990. Population ecology: A unified study of animals and plants. 2nd ed., Blackwell Scientific Publications, Oxford.

- BEGON, M., HARPER, J.L., TOWSEND, C.R. 1996. Ecology: Individuals, populations and communities. 3rd ed. London: Blackwell

- BROWER, J. E., ZAE, J.H. & VON ENDE, C. N. 1997. Field and laboratory Methods for general Ecology. McGraw-Hill, Columbus.

- HAIRSTON, N.G. 1991. Ecological experiments: Purpose, design and execution. Cambridge University Press, Cambridge.

- HANSKI, I. A. & Gilpin, M. E. 1997. Metapopulation biology: ecology, genetics, and evolution. Academic Press, San Diego-London.

- KREBS, C.J. 1989. Ecological methodology. Harper Collins Publishers New York.

- LUDWIG, J.A. & REYNOLDS, J.F. 1988. Statistical ecology: A primer on method and computing. John Wiley & Sons, New York.

- MAGURRAN, A. 2003. Measuring Biological Diversity. Blackwell, Oxford. -SCHRADER-FRECHETTE, K.S. & MCCOY, E.D. 1995. Method in ecology: Strategies for conservation. Cambridge University Press, Cambridge.

- SOKAL, R.R. & ROHLF, F.J. 1995. Biometry: The principles and practice of statistics in biological research. 3rd.ed. W.H. Freeman and Company, New York.

- VERHOEF, H.A. & MORIN, P.J. Community Ecology. 2010. Processes, Models and Applications. Oxford University Press.

- ZAR, J.H. 1996. Biostatistical analysis. 4th.ed. Prentice-Hall International, Inc., London.