UNIVERSIDADE FEDERAL DE SANTA CATARINA
CENTRO DE CIÊNCIAS BIOLÓGICAS
PROGRAMA DE PÓS-GRADUAÇÃO EM BIOLOGIA CELULAR E DO DESENVOLVIMENTO

PLANO DE ENSINO – 2024.2

I – Course identification:
Code/Name: BCD410056 The Languages of Science
Time charge: 30 class-hours or 2 credits at UFSC / 1 ECTS at partner countries
Period: 17/09 to 19/11/2024
Day and Time: Tuesdays at 09:00 h (Brasilia time)
Room: to be assigned
Places: 15 from UFSC / 15 from partner countries
Teachers: Profa. Dra. Norma Machado da Silva – norma.machado@ufsc.br
Prof. Dr. André de Ávila Ramos – deavilaramos@gmail.com
Prof. Dr. Geison Izídio – geisonizidio@gmail.com

II – Special Rules:
For being an international course that is offered in English to graduate students from different countries (Brazil, France, Morocco and Tunisia), there is a number of special rules to be followed:
- All students must speak English (B2 level is recommended) so that they will be able to understand, discuss and write their projects in English.
- The total of 30 hours (2 credits) will be divided into 18 h of face-to-face classes (7,5 h of theory + 7,5 h of project tutoring + 3 h of project presentation) and 12 h of autonomous team work, in direct interaction with team mates from a partner country.
- During theory classes, students from all institutions will be connected through a virtual platform (Zoom). Within each institution, teachers may choose between in-person classes (in a face-to-face classroom) and online classes (each student by him/herself). If a real classroom is chosen, there should be a video and audio system allowing the students from all countries to interact. Alternatively, in online classes, all students must have a personal access to internet and a computer device. All participants will be required to keep cameras and microphones open and to participate actively in the discussions (always in English).
- All students need to create mixed teams of up to four members (2 from UFSC and 2 from another partner institution/country) in order to develop practical projects (one per team). These projects will worth 62,5% of the final grades.

III – Course Program:
Science and Society. History of scientific popularization. Scientific communication models. Role of the lay public in scientific and technological debate. Science and Culture. Antiscience and Pseudoscience. Production of innovative pedagogical tools and/or processes. Science and Democracy.

IV – Teaching Methods:
- During theory classes, all students and teachers will discuss scientific articles that will be made available beforehand in a virtual library (https://languagesofscience.wordpress.com/2022s-edition/) specially created for this course. Each student is expected to read the mandatory papers before classes.
- During project tutoring, the mixed teams of students will have the opportunity to discuss with teachers about the development of their projects. This activity will be mandatory for UFSC students only.

- All teams will need to conceive and execute a mandatory course project. The projects are educational scientific activities to be carried out in a school of their choice located in their own home country (Brazil, France, Morocco or Tunisia). The planning of these activities will be made by the mixed teams, supervised by one of the course teachers. Each team will develop a workshop protocol for the theme of their choice that should be adaptable to the reality of each country where the workshop is meant to be applied.

V - Evaluation:

- 25% ALL - Participation in paper discussions: 10 points
- 12,5% BR – Assiduity: 5 points (in 15 h of mandatory face-to-face classes)
  FR – Assiduity: 5 points (in 7,5 h of mandatory synchronous online classes)
- 62,5% ALL - Project Presentation: 25 points

  Total= 40 points

V – Classes Timeline:

Week	Date	Theme for discussion (1.5 h)	Project development (1.5 h)
1	17/9	Introduction to the course. Models of Science Communication	Tutoring with teachers
2	24/9	Science and Culture	Tutoring with teachers
3	01/10	**Autonomous team meetings (3 h)**	
4	08/10	Anti-science and Pseudoscience	Tutoring with teachers
5	15/10	**Autonomous team meetings (3 h)**	
6	22/10	Citizen Science (synergies with Indigenous Knowledges)	Tutoring with teachers
7	29/10	**Autonomous team meetings (3 h)**	
8	05/11	Science and Democracy	Tutoring with teachers
9	12/11	**Autonomous team meetings (3 h)**	
10	19/11	**Project presentations (3 h)**	

7,5 h of theory + 7,5 h of project tutoring + 3 h of project presentation + 12 h of autonomous team work = 30 h

VI – Main References:

BAK-COLEMAN, J.B. et al. Stewardship of global collective behavior. PNAS, Vol. 118 (27), 1-10, 2021.

GASCOIGNE, T. et al. (orgs.). Communicating Science: a Global Perspective. Acton: ANU Press, 2020.

LEWENSTEIN, B.V. Models of Public Communication of Science & Technology. Version: 16 June (p 1-11), 2003. https://hdl.handle.net/1813/58743

TENGÖ, M. et al. Creating synergies between citizen science and indigenous and local knowledge. BioScience, 71 (5), 2021.

WEST, J.D. and BERGSTROM, C.T. Misinformation in and about science, PNAS, Vol. 118 (15), 1-8, 2021.

VII – Complementary References:

BERGSTROM, C.T. and WEST, J.D. Calling Bullshit: The art of skepticism in a data-driven world. New York, Random House, 326 p, 2021.

BUCCHI, M. Facing the challenges of science communication 2.0: quality, credibility and expertise. EFSA Journal, 17(S1), 2019.

DAVIS, S.R. et al. Science stories as culture: experience, identity, narrative and emotion in public communication of science. Journal of Science Communication, 18 (05), 2019.

DONNER, S.D. Publicity or perish: finding the balance in science communication. Biogeochemistry,134, 239–241, 2017.

HANSSON, S.O. Science denial as a form of pseudoscience. Studies in History and Philosophy of Science, 63, 39-47, 2017.

RAMOS, A. and EMPINOTTI, M. Indigenous languages must feature more in science communication. The Conversation, Johanesbourg, 9 dec. 2017.

ZAELZER, C. The value in science-art partnerships for science education and science communication. eNeuro, 7(4), 2020.