

Module Name	Coastal Remote Sensing
Module Number	LGEL9SIG
Person in Charge	Dr. HDR Simona Niculescu simona.niculescu@univ-brest.fr https://www.researchgate.net/profile/Simona-Niculescu
Semester / Duration	2. semester / compact course / 06 – 14 January 2025
Study Programme	Master of Geography, Master of Biology, Master of Science in Marine Geoscience
Class Title (Teaching Form) Lecturers	Lecture (2h+2h)/Exercise (12h per group)
Credit Points / Workload	2 ECTS / 4h Lecture + 12h Exercicio
Level	Beginner/intermediate
Educational Objectives	The aim of the course : <ul style="list-style-type: none"> • to show the place and usefulness of remote sensing in a geographical systems approach • to provide the theoretical and methodological elements essential for understanding the geographical information provided by optical satellite remote sensing images.
Content Of Teaching	The theoretical aspects are put into practice in the practical sessions. The main focus is on learning computerised remote sensing mapping techniques of land cover of coastal zones (in Bretagne) using SNAP and ORFEO TOOL BOX (OTB) open-source software and Sentinel-2, Pléiades and ALOS-AVNIR open-source satellite images + Machine Learning algorithms (Random Forest, Support Vector Machine).
Examination	A folder containing all the applications/exercises carried out during the practical lessons.
Additional Information	Students must download and install the following free software on their machines before the practical lessons: SNAP (ESA) https://step.esa.int/main/download/snap-download/ Orfeo Tool Box (OTB) https://www.orfeo-toolbox.org/download/ QGIS https://www.qgis.org/fr/site/forusers/download.html Sentinel-2, Pleiades and ALOS-ANVIR satellite images will be distributed by the teacher before class.