Academic course description – Example

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| BACHELOR ‘S PROGRAMME1ST YEAR OF STUDY, 2nd SEMESTER |

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| **Course title** | **HIDROLOGY AND OCEANOGRAPHY** |
| Course code | JT1207 |
| Course type | full attendance/ tutorial |
| Course level | 1st cycle (bachelor’s degree) |
| Year of study, semester | 1st year of study, 1st semester |
| Number of ECTS credits | 5 |
| Number of hours per week | 4 (2 lecture hours + 2 seminar hours) |
| Name of lecture holder | Associate Professor Ionut MINEA |
| Name of seminar holder | Associate Professor Ionut MINEA |
| Prerequisites | Advanced level of English  |
| A | **General and course-specific competences** |
|  | **General competences**:* Acquiring the adequate professional and transversal competencies, according to the specific requirements of the subject and the qualifications listed in the National Index of Higher Education Qualifications (RNCIS) for Geography of Tourism

**Course-specific competences**:* Describe: the components of tourism potential, the main forms of tourism, types of tourists
* Use: appropriate terminology and the main instruments used in hydrology
* Explain: the anthropogenic impact on water resources
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| B | **Learning outcomes** |
|  | * Calculate : principals hydrological and hydrogeological parameters
* Explain: the anthropogenic impact on water resources
* Design: hydrological and hydrogeological maps
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| C | **Lecture content** |
|  | Introduction. Definitions. Water volume in natureWater cicle. General properties of waterIdentification on water resources – field apllication in Iasi metropolitan areaHydrogeology - Hydrogeological properties of rocks, water categories in rocks, groundwater dynamicsHydrogeology - Hydrogeological properties of rocks, water categories in rocks, groundwater dynamicsHydrogeology - Hydrogeological properties of rocks, water categories in rocks, groundwater dynamicsRivers - River water movement, River hydrometry. Water level in rivers and types of levels, River water speed. River flow and flow types.Rivers – Water Supply sources, The hydrological regime of the rivers in the world and in Romania, Hydrological balance, Hydrological phenomena associated with maximum leakageRivers - River deposits, chemical flow and freezing phenomenaLimnology - The origin of water basins. Classifications. Morphometric parameters of lakesTelmatology - Marshes and wetlandsTelmatology - Marshes and wetlandsOceanography - Seas and oceans. ClassificationsOceanography - Seas and oceans. Classifications |
| D | **Recommended reading for lectures** |
|  | 1. Fetter C.W., (2001), Applied hydrogeology Prencice Hall, 598 p.
2. Garrison T (2008), Ocenaography . An invitation to marine science, Cengage Learning
3. Gâştescu P., (1998), Hidrologie, Edit. Roza Vânturilor, Târgovişte.
4. Gâștescu, P., (1998), Limnologie și Oceanografie, Edit. H\*G\*A\*, București.
5. Hiscock K, (2005), Hydrogeology. Pricipal and practice, Prencitce Hall, 389 p.
6. Pișotă I., Zaharia L., Diaconu D., (2005), Hidrologie, Edit. Universitară, București.
7. Posea A., (1999), Ocenografie, Edit. Fundației ”România de Mâine”, București.
8. Preda I., Marosi., (1971), Hidrogeologie, Edit. Didactică și Pedagogică, București.
9. Romanescu Gh., (2010), Hidrologie generală, Editura Terra Nostra, Iaşi.
10. Romanescu Gh., (2012), The tourist potential of coast and deltas – a look at the romanian coastal area, Parthenon Verlag, 284, p.
11. SorocovschiV., (2003), Hidrologia uscatului, Editura Casa cărţii de Ştiinţă, Cluj-Napoca.
12. Viessman W., Lewis G., (2002). Introduction to Hydrology, Fifth edition, Prentice Hall, 612 p.
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| E | **Seminar content** |
|  | Introduction. Labor protection. Presentation of requirements related to the hydrology and oceanography laboratory.Measurements that can be made at underground water sourcesWays to elaborate hydrogeological studies. Hydrogeological profileIdentification on water resources – field apllication in Iasi metropolitan areaHydrogeological data processing and analysis: map of isopreates and isobathsHydrogeological data processing and analysis: daily, monthly and annual hydrographic levelPotamology - practical applicationsMorphometric elements of river basins – tracing water divideMethods of measuring the surface, length of the river basinCross-sectional and longitunal profile of the riverProcessing, analysis and interpretation of hydrometric data on hydrological water regime in rivers (levels and flowsConstruction the cross section the river and determination of its hydraulic elementsIdentification of the main aquatic units at the level of Romania and globallyOceans and seas - currents sistemsOceans and seas - bathymetric mapsAssessment test |
| F | **Recommended reading for seminars** |
|  | 1. Bătinaş, R.H., Gheorghe, Ş., (2005), *Noţiuni practice de hidrologie*, Edit. Casa Cărţii de Ştiinţă, Cluj-Napoca.
2. Diaconu, C.D., (2003), *Hidrologie aplicată-lucrări de laborator*, Universitatea Bucureşti, Edit. CREDS, Bucureşti.

Gâştescu, P., Murarescu, O., Dinu, I., Bretcan, P., (2002), *Hidrologie continentala*, Edit. Roza Vânturilor, Târgovişte1. Gâştescu, P., Murarescu, O., Dinu, I., Bretcan, P., (2002), Hidrologie continentala, Edit. Roza Vânturilor, Târgovişte
2. Minea I., Romanescu Gh. (2007), *Hidrologia mediilor continentale. Aplicaţii practice,* Casa Editorială Demiurg, Iaşi;
3. Schram Maria, Pantazică Maria, (1983), *Hidrologia uscatului*, Universitatea „Al.I.Cuza”, Iaşi.
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| G | **Education style** |
| learning and teaching methods | Lecture, explanation, problematization, practical application |
| assessment methods | Examination + Seminar Grades |
| Language of instruction | English |