Module Name	Hydrometry (Practicum)
Module level, if applicable	Advance
Code, if applicable	GEL
Semester(s) in which the module	3rd Semester
Person responsible for the module	Nugroho Christanto, S.Si., M.Sc.
Lecturer	Nugroho Christanto, S.Si., M.Sc.
Language	Bahasa Indonesia
Relation to curriculum	Hydrometry (Practicum) Course is one of the elective courses in Environmental Geography Study Program, Faculty of Geography. Hydrometry Practicum courses can be taken by students in the third semester. This course is a companion of Hydrometry courses, both are advanced courses of basic hydrology courses.
Type of teaching, contact hours	STAR *(Student Teacher Aesthetic Role-Sharing)* is an optimal combination between SCL *(Student Centered Learning)* and TCL *(Teacher Centered Learning)*.
Workload	Lecturer, including homework and discussion : 12 meetings x 100 minutes each Fieldwork: 1 day Final Semester Examination: 100 minutes Total workload = 1200 minutes
Credit points	1 Credits
Requirements according to the examination regulations	Minimum attendance requirement 70% from total lecture
Recommended prerequisites	Basic Hydrology
Module objectives/intended learning outcomes	After following this course students are expected to be able to: 1. Able to understand and become familiar with the hydrological measurement tools 2. Able to use measurement tools to collect hydrological data 3. Able to construct ground precipitation measurement network 4. Able to calculate rainfall area using several methods 5. Able to understand and become familiar with the river discharge measurement tools 6. Able to calculate river discharge in the field 7. Able to understand and become familiar with the river discharge measurement structures 8. Able to prepare and calculate rating table and rating curve to calculate river discharge 9. Able to understand the river discharge measurement station 10. Able to plan an exact location for river discharge measurement station 11. Able to measure river sediment 12. Able to calculate sediment discharge

	13. Able to solve some problems during field measuremen 14. Able to calculate lake morphometry using GIS and field measurement
Content	1. Introduction to Measurement tools 2. Precipitation measurement 3. Discharge Measurement (I) 4. Discharge Measurement (II) 5. River discharge measurement station 6. River sediment measurement 7. Problems in hydrological measurement 8. Lake morphometry
Study and examination requirements and forms of examination	1. Pre-test 2. Individual assignment – written 3. Attendance – summary from presence list 4. Final exam – written and/or oral
Media employed	1. Online sources 2. Computers 3. Case in the field 4. LCD projector
Reading list	Library Resources: Required: Boiten, W, 2005, Hydrometry, IHE Delft Lecture Note Series, Taylor & Francis, The Netherlands Herschy, R.W. 2008, Streamflow Measurement, Taylor & Francis, New York. Shaw, E.M., 1988, Hydrology in Practice, van Nostrand reinhold Co., London WMO, 1974, Guide to Hydrological Practice, WMO, Geneva. Seyhan, E., 1990, Fundamental hydrology, Suggestions Chow, V.T., D.R.Meidment, L.W. Mays, 1988, *Applied Hydrology,* McGraw Hill Book, New York. Dunne, T., L.B. Leopod, 1978, *Water in Environmental Planning*, Freeman and Co., New York. Linsley, R.K., Kohler, M.A., Paulhus, J.L.H, 1988, Hydrology for Engineers, John Willey & Sons. Viesmann, Jr.W., 1989, *Introduction to Hydrology*, Harper and Row pbl., New York. Ward, R.C., M. Robinson, 1990, *Principles of Hydrology*, McGraw-Hill Book Co., Toronto. McCuen, R.H., 1989, *Hydrologic Analysis and Design*, Prentice-Hall International, London. Bos, M.G., 1976, *Discharge Measurement Structures*, ILRI, Wageningen.

	Soewarno, 1991, Hidrologi, Pengukuran dan pengelolaan data aliran, ISO, 1969, Liquid Flow Measurement in Open Channels