**UNDERGRADUATE PROGRAM HANDBOOK** **MODULE**

| | |
|---|---|
| Module designation | Agrohydrology (SSOL3056) |
| Semester(s) in which the module is taught | 6th semester |
| Person responsible for the module | Prof. Dr. Ir. Hairul Basri, M.Sc. |
| Language | Indonesian, English |
| Relation to curriculum | Compulsory module for Soil Science Department |
| Teaching methods | Lecture, presentation, focus group discussion |
| Workload (incl. contact hours, self-study hours) | ✔ Lecture and discussion 100 minutes per week per semester<br>✔ Structured tasks 120 minutes per week per semester<br>✔ Personal tasks 120 minutes per week per semester |
| Credit points | 2 SKS = 3.2 ECTS |
| Required and recommended prerequisites for joining the module | SSOL1006 |
| Module objectives/intended learning outcomes | ✔ Students are able to understand the basic concepts of agrohydrology, the hydrological cycle, and its components.<br>✔ Students are able to analyze the processes of precipitation, infiltration and modelling, surface runoff, and groundwater, including the methods for their calculation.<br>✔ Students are able to identify sources of agricultural water and apply sustainable water management techniques.<br>✔ Students are able to analyze the water balance in agricultural land and design solutions to agrohydrological problems. |
| Content | The course discusses about the scope and basic concepts of basic agrohydrology concepts, the hydrological cycle and hydrological components, analyze the processes of precipitation, infiltration, surface flow, groundwater and their calculation methods, analyze the water balance of agricultural land and know agricultural water sources and their management sustainably. |
| Exams and assessment formats | Case method, quiz, assignment, midterm exam, final exam |
| Study and examination requirements | ✔ Case method: 50%<br>✔ Quiz: 5%<br>✔ Assignment: 10%<br>✔ Midterm exam: 15%<br>✔ Final exam: 20% |

| | |
|---|---|
| Reading list | 1. Sukman, dkk. 2019. Hidrologi. Makassar: CV. Tohar Media.<br>2. Tarru, R. O., dkk. 2024. Hidrologi. Yogyakarta: Deepublish Digital.<br>3. Asdak, C. 2023. Hidrologi dan Pengelolaan Daerah Aliran Sungai. Yogyakarta: Gadjah Mada University Press<br>4. Dewi, E. P., Juniatmoko, R., Arida, V., Fachruddin, F., Pribadyo, P., Sari, N., ... & Olii, M. R. (2023). HIDROLOGI TEKNIK DAN AGROKLIMATOLOGI.<br>5. Ngatimin, S. N. A., & SP, M. S. (2020). Agrohidrologi senandung kehidupan tentang pencemaran air. Penerbit LeutikaPrio.<br>6. Yousuf, A., & Singh, M. (Eds.). (2019). Watershed hydrology, management and modeling (pp. 77-97). Boca Raton, FL, USA: CRC Press.<br>7. Yousuf, A., & Singh, M. (Eds.). (2019). Watershed hydrology, management and modeling (pp. 77-97). Boca Raton, FL, USA: CRC Press.<br>8. Brutsaert, W. (2023). Hydrology. Cambridge university press. |