**Hydrology**

**Course Description Form**

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| 1. Course Name: | | |
| Hydrology | | |
| 1. Course Code: | | |
|  | | |
| 1. Semester / Year: | | |
| first/ third | | |
| 1. Description Preparation Date: | | |
| 15 September 2024 | | |
| 1. Available Attendance Forms: | | |
| Class | | |
| 1. Number of Credit Hours (Total) / Number of Units (Total) | | |
| 4/2 | | |
| 1. Course administrator's name (mention all, if more than one name) | | |
| Dalia Hussain Abdallah | | |
| 1. Course Objectives | | |
| **Course Objectives** | | Hydrologic cycle and measurement of temperature, and wind. Then study the type of precipitation and method of measurement. the stream flow and method of measuring the stage, velocity and discharge. Rating curve. Evaporation and method of measurement. Subsurface water and ground water movement in confined and unconfined aquifer. Characteristics of hydrograph and separation of hydrograph. Unit storm. Stream flow routing And Applications like hydraulic design of spillway, sewage, reservoirs and dams. |
| 1. Teaching and Learning Strategies | | |
| **Strategy** | • Introduce students to the definition of Hydrology.  • Self-regulated learning (i.e., planning, monitoring and evaluating one’s own  learning process in the classwork / Class teamwork).  • Practice testing (short question answers and exams).  • Self-explanation (i.e., explaining to oneself how new information is related to  old information or explain steps taken when solving a problem or a task). | |

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| 11. Course Structure | | | | | |
| Assessment Method | Teaching  Method | Unit/Module or Topic Title | ILOs | Hours | Week |
| Several Ways (Exams + Assignments) | Theoretical |  | Introduction of Hydrology | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Precipitation part 1 | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Precipitation part 2 | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Precipitation part 3 | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Stream flow | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Weirs | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Stage-discharge relation | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Trace discharge | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Water losses | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Runoff | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Runoff | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Hydrograph | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | Hydrograph | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | s-curve | 4 |  |
| Several Ways (Exams + Assignments) | Theoretical |  | SCS-CN method to estimate runoff | 4 |  |

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| 11. Course Evaluation | |
| Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc  1. Course cumulative:  a. Assignments: 10  b. Quizzes: 10  c. Midterm Exams: 20  2. Final Exam: 60 | |
| 1. Learning and Teaching Resources | |
| Required textbooks (curricular books, if any) | Hydrology for Engineering by Linsley 1988 |
| Main references (sources) | A textbook of HYDROLOGY, Dr.P.Jaya Rami Reddy 2013 |
| Recommended books and references (scientific journals, reports...) |  |
| Electronic References, Websites | Hydrology Principles. Analysis. Design, H.M Raghunath 2006 |