

Date:	Examination No.:	Version: 1/9/2023	Start: 1/9/2023
<b>Module Name - Code</b>	Engineering Hydrology – WRE 6122		
<b>Module Language:</b>	English		
<b>Responsible:</b>	Lecturer: Dr. Abdulwahd Ali Kassem		
<b>Lecture (s):</b>	Lecturer: Dr. Abdulwahd Ali Kassem & Assistant Lecturer: M. Bahar		
<b>College:</b>	College of Engineering – Salahaddin University-Erbil		
<b>Duration:</b>	15 weeks – 1 semester		
<b>Course outcomes:</b>	<p>The student is introduced to Engineering Hydrology including the hydrological cycle on earth, fundamentals of hydrology, storm analysis, analysis of rainfall data, duration, return period, characteristics of catchment areas, surface runoff and its computation, hydrological measurement, evaporation, evapotranspiration, infiltration, infiltration index, rainfall losses, watershed hydrology, Methods of surface runoff estimations, hydrographs, unit hydrograph, synthetic unit hydrographs, rational method, flood, flood routing, routing of river flow.</p> <p>By the end of this course, you should be able to Analyze the rainfall data, and storm analysis, estimate the water losses, and find the peak discharge for design.</p>		
<b>Course Content:</b>	Introduction and Hydrological cycle on earth, Fundamentals of hydrology, Precipitation measurement, Analysis of rainfall data, Duration, return period, Characteristics of catchment areas, Hydrological measurement, Rainfall losses, Infiltration, infiltration index, Stream measurement, Hydrographs, Unit hydrograph and Synthetic unit hydrographs.		
<b>Literature:</b>	<p>1- " Engineering Hydrology ", by K Subramanya.</p> <p>2- " Irrigation Engineering and Hydraulic Structures ", by S. R. Sahasrabudhe.</p> <p>3- "Apply Hydrology", by Ven T. Chow.</p> <p>4- " Hydrologic analysis and design ", by Richard H. McCuen.</p>		
<b>Type of Teaching:</b>	4 hours in lectures		
<b>Pre-requisites:</b>	No		
<b>Frequency:</b>	Yearly in the fall semester		
<b>Requirements for credit points:</b>	<p>For the award of credit points, it is necessary to pass the module exam.</p> <p>The module exam contains:</p> <p>Midterm and Final Semester Exams</p> <p>Daily Requirements (Assessments, Quizzes, Daily Activities, etc..)</p> <p>Student's attendance is required in all classes.</p>		
<b>Credit point:</b>	5 credits		
<b>Grade Distribution:</b>	<p>The Grade is generated from the examination result(s) with the following:</p> <p>2 Midterm exams (10% each one) and 4 quizzes (5% each one).</p> <p>60% final theoretical Exam.</p>		
<b>Workload:</b>	The workload is 120 hr. It is the result of 60 hours of attendance and 60 hr self-studies.		