Project Work Module				
Course Number	IWRE 5203			
Course Title	**Software Application in WRIE**			
Degree Program	B.Sc. in Irrigation and Water Resources Engineering			
Module	Water Resources Planning			
Module Coordinator	Name: . …….. Office location . …….. Mobile: . ……; e-mail: ……. Consultation Hours:			
Lecturer	Name: . …….. Office location . …….. Mobile: . ……; e-mail: ……. Consultation Hours:			
The credits in ECTS	3			
Weekly Contact Hours	Lecture	Tutorial	Practice or Laboratory	Home study
	1	**0**	**3**	**1**
Course Objectives & Competences to be Acquired	. The objective of this course is introduce to the students different models, and their structures, At the end student be able to use those models in aliasing real time problem in water resources			
Course Description/Course Contents	Hydrodynamic modeling: introduction to hydrodynamic models, general structure of models, describing unsteady flow using models based on 1D differential equation for water quality, quantity, response time and sediment transport problems. Modeling branching open channel networks with variable cross-sections and control structures like weir, culverts, siphons, flap gates and pumps. Modeling propagation of waves through canals, response time effect on operation, effect of maintenance on water levels and operation of off takes. Exercise based on the operation of an irrigation canal by an active modeling of a canal with control structures. Possible model: DUFLOW, CROPWAT, other hydrologic models			
Pre-requisites	Introduction to computers & Programming and Engineering Hydrology Module			
Semester	Year 5, Semester II			
Status of Course	Compulsory			
Teaching & Learning Methods	lectures, Practical, Case studies			
Assessment/Evaluation & Grading System	Tests & laboratory practice, 50% projects 20% Final Exam 30%			
Attendance Requirements	A student must attend at least 75 % of the classes & 100% of laboratory class			
Literature				