Course Specifications

General Information

Course name	Hydrogeology
Course number	GEOL4322
Faculty	
Department	
Course type	Major Needs
Course level	4
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - The objectives of this course are to give the student a fundamental knowledge of: 1. Components of the hydrologic cycle 2. Calculation of the average rainfall over a watershed 3. Calculation of evaporation and evapotranspiration 4. Measurement of streamflow 5. Separation of the surface runoff from the streamflow in a hydrograph

Intended Learning Outcomes

Knowledge and Understanding

* On successful completion of this course, student will be able to: 1. Design a groundwater investigation and monitoring program. 2. Evaluate groundwater case studies 3. Explain why groundwater is important in the local, national and global context of sustainable natural resource management.

Course Contents

1 - Hydrological cycle, Rainfal, Evaporation, transpiration, Wter recharge, groundwater basins and aquifers, groundwater level, groundwater flow equations, well test, and groundwater abstraction

2 - Practical part Determination component of hydrological cycle, direction of groundwater flow, permeability coefficient and pumping test analysis

Teaching and Learning Methods

1 - Lectures

2 - Teamwork solving problem tutorials

3 - LCD

4 - Asigment

Students Assessment

Assessment Method	TIME	MARKS
Theoretical Midterm Exam		20
Theoretical Final Exam		30
Assignments		10
Practical Midterm Exam		20
Practical Final Exam		20

Books and References

Recommended books	Applied Hydrology - Fourth Edition C.W. Fetter

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Hydrological cycle, Rainfal, Evaporation, transpiration, Wter recharge, groundwater basins and aquifers, groundwater level, groundwater flow equations, well test, and groundwater abstraction					
	15				
		Geology, Math, General geology, Geomorphology			
			Computer Skills		
				Computer Skills	
					Computer Skills