

AGX6283 Groundwater Resources Management

Level	6
Course Code	AGX6283
Course Title	Groundwater Resources Management
Credit value	2
Core/Optional	Optional
Course Aim/s	To provide knowledge on principles of groundwater resources and its application on sustainable resource management
Course Learning Outcomes (CLO):	<p>At the completion of this course student will be able to:</p> <p>CLO1: Explain the uses of groundwater in irrigation and domestic purposes[PLO1] [PLO3][PLO5][PLO12]</p> <p>CLO2: Estimate the groundwater recharge[PLO1][PLO4] [PLO5] [PLO11][PLO12]</p> <p>CLO3: Apply groundwater modelling for resource assessment[PLO6] [PLO7][PLO11]</p> <p>CLO4: Design drip and sprinkler irrigation systems[PLO1] [PLO5] [PLO11][PLO12]</p> <p>CLO5: Explain groundwater contamination and measures for protection[PLO1] [PLO5] [PLO3][PLO4][PLO8]</p>
Content (Main topics, sub topics)	<p>Outline syllabus:</p> <p>Unit 1: Groundwater Resources</p> <p style="padding-left: 20px;">Session 1 : Groundwater Resources in Sri Lanka</p> <p style="padding-left: 20px;">Session 2 : Groundwater for Irrigation</p> <p style="padding-left: 20px;">Session 3 : Groundwater for Domestic Use</p> <p style="padding-left: 20px;">Session 4 : Groundwater Recharge</p> <p style="padding-left: 20px;">Session 5 : Groundwater chemistry</p> <p style="padding-left: 20px;">Session 6 : Groundwater Modelling I- Regional Groundwater Flow Model and Ground water Modelling II -Radial Flow Model</p> <p>Unit 2: Groundwater Resources Management</p> <p style="padding-left: 20px;">Session 7 : Sustainable Shallow Groundwater Resources Management</p> <p style="padding-left: 20px;">Session 8 : Sustainable Deep Groundwater Resources Management</p> <p style="padding-left: 20px;">Session 9: Crop Water Requirements</p> <p style="padding-left: 20px;">Session 10: Drip Irrigation</p> <p style="padding-left: 20px;">Session 11 : Sprinkler Irrigation</p> <p style="padding-left: 20px;">Session 12 : Groundwater Vulnerability and Susceptibility</p> <p style="padding-left: 20px;">Session 13 : Groundwater Contamination and Protection I</p> <p style="padding-left: 20px;">Session 14 : Groundwater Contamination and Protection II</p> <p style="padding-left: 20px;">Session 15 : Groundwater Resources Management Policy Review</p> <p>Laboratory work : Yes</p> <ol style="list-style-type: none"> 1. Identification and calculation porosity, permeability, sedimentary rock and core sampling and pollution flumes. 2. Quantitative analysis of phosphate in water sample.