HYD 110

Spring

Irrigation Principles & Practices
12:10 - 1:00 PM T,R Lecture Veihmeyer Hall 116
1:10 - 4:00 PM R Laboratory
Instructor(s): Professor Isaya Kisekka 4 Units

COURSE SCHEDULE

Week 1

Lecture 1: Soil physics
Lecture 2: Water and salinity stress
LAB 1: Measuring salinity using Electromagnetic Induction

Week 2

Lecture 3: Geophysical application in Ag water management
Lecture 4: Soil mapping
LAB 2: Using ERT Tomography to measure root zone soil water

Week 3

Lecture 3: Evapotranspiration and irrigation scheduling
Lecture 4: Sprinkler irrigation
LAB 3: Design a sprinkler irrigation system using IrriCAD

Week 4

Lecture 5: Drip irrigation
Lecture 6: Landscape/Turf irrigation
LAB 4: Design a drip irrigation system using IrriCAD

Week 5

Lecture 7: Mainline design
Lecture 8: Pumps, filtration and pressure regulation
LAB 5: Design a mainline using IrriCAD

Week 6

Lecture 9: Fertigation management
Lecture 10: Hydroponic irrigation systems
LAB 6: Field visit to UC Davis greenhouses and Campbell Track

Week 7

Lecture 11: Midterm review
Lecture 12: Midterm
LAB: No lab

Week 8

Lecture 13: Recycled water reuse for irrigation
Lecture 14: Guest lecture
LAB 7: Measuring salinity and sodicity in recycled water

Week 9

Lecture 15: Crop yield response to water
Lecture 16: Irrigation economics
LAB 8: Model crop yield response to irrigation

Week 10

Lecture 17: Environmental impact of irrigated agriculture
Lecture 18: Final exam review
LAB :

Finals Week

Date and time of final exam to be determined

Grading

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Lab: 45%
Midterm: 25%
Final: 25%
Attendance: 5%