HYD 118

Spring

Evapotranspiration Principles, Measurement & Modeling
3:10 - 4:00 PM T,R Lecture Veihmeyer Hall 116
4:10 - 5:00 PM R Laboratory
Instructor(s): Professor Isaya Kisekka   4 Units

COURSE SCHEDULE

Week 1

Lecture 1: Basic concepts of evapotranspiration
Lecture 2: Basic concepts of evapotranspiration
LAB 1: Develop a script or spreadsheet for computing reference ETo

Week 2

Lecture 3: Evapotranspiration estimation using crop coefficient approach
Lecture 4: Application of crop coefficient in Ag water management
LAB 2: Estimation of crop coefficient

Week 3

Lecture 3: Evapotranspiration measurement using soil water balance
Lecture 4: Guest lecture
LAB 3: Make soil water measurement using a neutron probe

Week 4

Lecture 5: Evapotranspiration measurement using lysimeters
Lecture 6: Weighing versus drainage lysimeters
LAB 4: Processing lysimeter data to obtain ET

Week 5

Lecture 7: Evapotranspiration measurement using eddy covariance
Lecture 8: Processing flux data into ET
LAB 5: Using EddyPro and Tovi flux data

Week 6

Lecture 9: Evapotranspiration measurement using surface renewal
Lecture 10: Guest lecture
LAB 6: Processing surface renewal data into ET

Week 7

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

Week 8

Lecture 13: Remote sensing of evapotranspiration
Lecture 14: Guest lecture
LAB 7: Estimate landscape ET using SEBS, pySEBAL

Week 9

Lecture 15: Evapotranspiration modeling in crop simulation models
Lecture 16: Guest lecture
LAB 8: Evaluate effect ET model selection on crop model simulations

Week 10

Lecture 17: Evapotranspiration estimation using artificial intelligence
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%