PURDUE UNIVERSITY | Institute for Digital and Advanced Agricultural Systems

IDAAS Newsletter
February 2025

Education Spotlight

Data Science Class Designed to Challenge Students

AGR 33300, Data Science for Agriculture, is a matrix of data science skills set within applications of forestry and natural resources, crops, animals sciences, agricultural engineering, soils, and agricultural economics. It is team taught with several faculty across the College of Agriculture working together with a graduate teaching assistant. Each faculty member takes a different portion of the data cycle. While this matrix setup could prove chaotic for students, it is all tied together by the TA that is the steady component for all the labs. Labs follow the data life cycle forming a hypothesis and research setup, data acquisition, data wrangling, analysis, visualization, and decision-making. Excel, R, and a bit of Python are used. Students come to the class with a range of programming skills, so there a lot of individual attention.

The class originated from a 2020 grant from the Provost and Executive Vice President for Research and Partnerships Integrative Data Science Initiative. A full online version will be completed this spring.
Participating Faculty

- Jackie Boerman, ANSC
- Dennis Buckmaster, ABE
- Bruce Erickson, AGRY
- John Evans, ABE
- Betty Feng, FS
- Insu Jo, FNR
- Guofan Shao, FNR
- Yaguang Zhang, ABE/ASEC

Teaching Assistants

- Luis Vargas, AGRY (2024)
- Sujata Bogati, AGRY (2022-2023)

Purposefully frustrated students using image recognition software in an AGR 33300 lab. Finding the right mix of guidance and self direction is a consideration for any educator. If you can keep students moving along it's the challenge that often provides the most lasting learning.

Digital Identity

What is Digital Agriculture? It's the use of digital devices to gather, process and analyze spatial and/or temporal data. This data can then guide targeted actions to improve agricultural efficiency, productivity and sustainability.

Contributions to this newsletter are welcomed. Please send your ideas, ideally about one paragraph with links and a photo, to digitalag@purdue.edu.