

Concentration: Data Science for Agricultural and Biological Engineering (DSAG)

Core courses are to be selected from each of the following categories:

- **Statistics/Math** [3 credits] (STAT 51100 – Statistical Methods, STAT 51200 – Applied Regression Analysis, STAT 51400 – Design of Experiments, MATH 51100 - Linear Algebra with Applications, MATH 52700 Advanced Mathematics for Engineers and Physicists I, MATH 51400 Numerical Analysis, CS 51500 – Numerical Linear Algebra, AGRY 64100 - Statistical Hydrology)
- **Computational thinking, data structures and management** [6 credits] (ABE 65100 – Environmental Informatics, ABE 59100 - Machine Learning and Vision for IoT, MGMT 58100 - Big Data Technologies, ASM 59100 - Introduction to Agricultural Informatics, STAT 50600 – Statistical Programming and Data Management, MGMT 54400 – Database Management Systems)
- **Data acquisition and visualization** [3 credits] (ABE 46000 – Sensors and Process Controls, ASM 42000 – Electric Power and Controls, ABE 53100 – Instrumentation and Data Acquisition, AGRY 54500 – Remote Sensing of Land Resources, FNR 55800 - Remote Sensing Analysis and Applications, CGT 57500/ABE 59100 - Data Visualization Tools And Applications)
- **Applications/domain expertise courses** [3 credits] (ASM 42200 - Advanced Machine Technology For Agricultural Crop Production, ABE 52700 - Computer Models In Environmental And Natural Resources Engineering, ASM 54000 - Geographic Information System Application, HORT 53100 - Applied Plant Genomics, ABE 53000 - Plant Phenotyping Technologies)

Students select 15 credits from a list of core courses suggested above and additional six credits (i.e., two courses) in consultation with their advisor and advisory committee.