**DATA ANALYTICS FOR ENGINEERS (DAEN), MINOR**

Requirements for Students Matriculating in or before Academic Year 2021-2022. Learn more about University Academic Regulation 3.1 (http://catalog.okstate.edu/university-academic-regulations/#matriculation).

**Total Hours:** 15

**Minimum Overall Grade Point Average:** 2.50 with a grade of "C" or better in each course submitted for the minor.

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<td>Select at least one course from each list:</td>
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**Data Visualization**
- EET 3363  Data Acquisition
- ENGR 2421  Engineering Data Acquisition Controls Lab

**Descriptive Analytics**
- IEM 3103  Probability and Statistics for Engineers I
- IEM 4723  Information Systems Design and Development
- ECEN 4233  High Speed Computer Arithmetic
- STAT 4033  Engineering Statistics
- STAT 4023  Statistical Methods II
- STAT 4091  Sas Programming

**Data Analysis Tools**
- CHE 4753  Introduction to Applied Numerical Computing for Scientists and Engineers
- CS 3513  Numerical Methods for Digital Computers
- IEM 3713  Software Programming for Data Analytics
- IEM 4783  Applied Statistical Analysis in R for Engineers
- MATH 4513  Numerical Analysis
- MATH 4553  Introduction to Optimization
- MATH 5553  Numerical Analysis for Linear Algebra
- MAE 3403  Computer Methods in Analysis and Design
- STAT 4191  R Programming
- STAT 4463  Statistical Machine Learning with R

**Prescriptive Analytics**
- IEM 4013  Operations Research
- IEM 4113  Industrial Experimentation
- CHE 4002  Chemical Engineering Laboratory I
- CHE 4112  Chemical Engineering Laboratory II
- STAT 4073  Engineering Statistics with Design of Experiments

**Predictive Analytics**
- IEM 4103  Quality Control and Reliability Analysis
- IEM 4713  Systems Simulation Modeling
- IEM 4783  Applied Statistical Analysis in R for Engineers
- STAT 4043  Applied Regression Analysis
- CHE 4493  Introduction to Molecular Modeling and Simulation

**Additional OSU Requirements**

**Undergraduate Minors**
- An undergraduate minor must include between fifteen and thirty hours, inclusive of undergraduate coursework.
- A minimum of six credit hours for the minor must be earned in residence at OSU.
- The courses required for a minor may be included in the course requirements for any undergraduate degree or they may be in addition to degree requirements, depending on the overlap between the minor and degree requirements. However, an undergraduate minor must be earned in an academic field other than the student’s declared degree option. The minor may not duplicate the degree major or option (for example, a student who earns a BA in Art with an Art History option may earn a minor in Studio Art but not Art History).
- A student generally follows the minor requirements associated with his or her matriculation year or newer requirements that have been established since matriculation. The time limit for following requirements from a given academic year is six years.

For additional information on requirements on minors, click here (https://adminfinance.okstate.edu/site-files/documents/policies/requirements-for-undergraduate-and-graduate-minors.pdf).