# Data Analytics for Engineers (DAEN), Minor

Requirements for Students Matriculating in or before Academic Year 2022-2023. 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.

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Select at least one course from each list:</td>
<td>15</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 Probability and Statistics for Engineers I
- ECEN 4233 High Speed Computer Arithmetic
- IEM 3103 Probability and Statistics for Engineers I
- IEM 4723 Information Systems Design and Development
- IEM 3713 Software Programming for Data Analytics
- 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 Introduction to 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 4013 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

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**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).