

### Agricultural Engineering Technical Electives

Technical electives are upper-level engineering courses. Students can choose from the recommended list below or seek consent of their advisor for other alternatives. A minimum of 20 hours is required.

| At least 12 hours of course work selected from: |  | Hours |
|---|--|-------|
| ABE 295   | Independent Study                              | 1–4   |
| ABE 361   | Principles of Off-Road Machines                | 3     |
| ABE 374 <sup>1</sup>                            | Environmental Control for Biological Buildings | 3     |
| ABE 425 <sup>2</sup>                            | Engineering Measurement Systems                | 3–4   |
| ABE 426   | Applied Machine Vision                         | 3     |
| ABE 456 <sup>1</sup>                            | Land and Water Resources Engineering           | 3     |
| ABE 459 <sup>1</sup>                            | Drainage and Water Management                  | 3     |
| ABE 466   | Engineering Off-Road Vehicles                  | 3     |
| ABE 469 <sup>1</sup>                            | Off-Road industry Design Projects              | 3     |
| ABE 476   | Indoor Air Quality Engineering                 | 3     |
| ABE 483   | Engineering Properties of Food Materials       | 3     |
| ABE 485 <sup>1</sup>                            | Food and Process Engineering Design            | 2     |
| ABE 487   | Grain Drying and Conditioning                  | 3     |
| ABE 489   | Process Design for Corn Milling                | 3     |

| Remainder of the 20 hours of course work selected from: |  | Hours |
|---|--|-------|
| CEE 311   | Engineering Surveying or CEE 312 Route Surveying             | 3–4   |
| CEE 330   | Environmental Engineering                                    | 3     |
| CEE 350 <sup>2</sup>                                    | Water Resources Engineering                                  | 3     |
| CEE 360 <sup>2</sup>                                    | Structural Engineering                                       | 3     |
| CEE 380   | Geotechnical Engineering                                     | 3     |
| CEE 450   | Surface Hydrology  | 3     |
| CEE 460   | Steel Structures, I  | 3     |
| CEE 461   | Reinforced Concrete Design, I                                | 3     |
| CEE 470   | Structural Analysis  | 4     |
| CHEM 423  | Electronic Circuits, I                                       | 5     |
| CHBE 221  | Principles of Chemical Engineering                           | 3     |
| CHBE 321  | Thermodynamics   | 4     |
| CHBE 421  | Momentum and Heat Transfer                                   | 4     |
| CHBE 422  | Mass Transfer Operations                                     | 4     |
| GE 330  | Operations Research Methods for Profit and Value Engineering | 3     |
| ME 330  | Engineering Materials  | 4     |
| ME 350  | Design for Manufacturability                                 | 3     |
| ME 370 <sup>2</sup>                                     | Mechanical Design, I   | 3     |
| ME 461  | Computer Controls of Mechanical Engineering Systems          | 3     |
| MFGE 310  | Introduction to Manufacturing Systems                        | 3     |
| MFGE 450  | Information Management for Manufacturing Systems             | 3     |

*or any 300- or 400-level engineering course approved by advisor.*

<sup>1</sup>Students must take at least one of these courses. Includes major design experience.

<sup>2</sup>This course is strongly recommended