

# Construction Engineering

## Building Emphasis

2020-2021 Catalog

128 Total Credits

### First Year

#### Semester 1

- R Engr 101 (Engr Orientation)
- 3 CE 160 (Engr Problem Solving)
- 4 Math 165 (Calculus I)
- 4 Chem 167 (Chem for Engrs)
- 3 Engl 150 (Critical Thinking & Comm)
- 1 ConE 121 (Academic Learn Community)

15 Total Credits

#### Semester 2

- 2 CE 170 (Engineering Graphics)
- 4 Math 166 (Calculus II)
- 5 Phys 221 (Classical Physics I)
- 3 Engl 250 (WOVE Composition)
- 1 Lib 160 (Library)
- 1 ConE 122 (Prof Learning Community)

16 Total Credits

### Sophomore Year

#### Semester 3

- 3 ConE 222 (Contractor Org & Mgmt)
- 3 CE 111 (Fund of Surveying I)
- 3 Economics Elective (Econ 101 or 102)
- 3 Math or Stat Elective
- 4 Phys 232 (Classical Physics II)
- 1 Phys 232L (Classical Physics II lab)

17 Total Credits

#### Semester 4

- 3 ConE 241 (Constr Materials/Methods)
- 1 ConE 251 (Mech/Elec Mat/Methods)
- 4 Math 267 (Elem. Differential Eq.)
- 3 IE 305 (Engineering Economics)
- 3 CE 274 (Statics)

14 Total Credits

### Junior Year

#### Semester 5

- 3 ConE 352 (Mechanical Systems in Bldgs)
- 3 ConE 353 (Electrical Systems in Bldgs)
- 3 EM 378 (Mechanics of Fluids)
- 3 Stat 231 or 305 (Engr Statistics)
- 3 EM 324 (Mechanics of Materials)
- 3 SSH Elective (Psych 101/230/250//280 or Soc 134)

18 Total Credits

#### Semester 6

- 3 Law Elective (ConE 380 or Acct 215)
- 3 ConE 322 (Constr Equip/Hvy Methods)
- 3 ConE 340 (Concrete/Steel Construction)
- 4 CE 360 (Soils Engineering)
- 3 CE 332 (Structural Analysis I)
- 1 EM 327 (Mechanics of Materials Lab)

17 Total Credits

### Senior Year

#### Semester 7

- 3 ConE 422 (Constr Cost & Estimating)
- 3 ConE 441 (Constr Plan, Sched & Contrl)
- 1 CE 383 (Dsgn of Portland Cemnt Concr)
- 3 CE 333 (Struct Steel Dsgn I)
- 3 SSH Elective (US Diversity)
- 3 Engineering Topics Elective

16 Total Credits

#### Semester 8

- 3 ConE 487 (Constr Engr Design I)
- 3 ConE 488 (Constr Engr Design II)
- 3 CE 334 (Reinf Concrete Design I)
- 3 Business Comm (Engl 302, 309, or 314)
- 3 SSH Elective (Intl Perspective)

15 Total Credits

Shading indicates Basic Program courses

Compiled from official ISU catalog 4-year plans ([catalog.iastate.edu/undergraduatemajors-alpha/](http://catalog.iastate.edu/undergraduatemajors-alpha/))

# Construction Engineering

## Electrical Emphasis

2020-2021 Catalog

127 Total Credits

### First Year

#### Semester 1

- R Engr 101 (Engr Orientation)
- 3 CE160 (Engr Problem Solving)
- 4 Math 165 (Calculus I)
- 4 Chem 167 (Chem for Engrs)
- 3 Engl 150 (Critical Thinking & Comm)
- 1 ConE 121 (Acad Learning Community)

15 Total Credits

#### Semester 2

- 2 CE 170 (Engineering Graphics)
- 4 Math 166 (Calculus II)
- 5 Phys 221 (Classical Physics I)
- 3 Engl 250 (WOVE Composition)
- 1 Lib 160 (Library)
- 1 ConE 122 (Prof Learning Community)

16 Total Credits

### Sophomore Year

#### Semester 3

- 3 ConE 222 (Contractor Org & Mgmt)
- 3 CE 111 (Fund of Surveying I)
- 3 Math or Stat Elective
- 4 Phys 232 (Classical Physics II)
- 1 Phys 232L (Classical Physics II lab)
- 3 Econ Elective (Econ 101 or 102)

17 Total Credits

#### Semester 4

- 3 ConE 241 (Constr MatrIs & Methods)
- 1 ConE 251 (Mech/Elec Mat/Methods)
- 4 Math 267 (Differential Equations)
- 3 CE 274 (Statics)
- 3 IE 305 (Engineering Economics)

14 Total Credits

### Junior Year

#### Semester 5

- 3 Stat 305 or 231 (Engr Statistics)
- 3 EM 324 (Mechanics of Materials)
- 3 Con E 352 (Mech. Systems in Bldgs.)
- 3 Con E 353 (Electric Systems in Bldgs.)
- 4 EE 201 (Electrical Circuits)

16 Total Credits

#### Semester 6

- 3 EE 303 (Energy Sys/Power Electronics)
- 3 Law Elective (ConE 380 or Acct 215)
- 4 EE 230 (Electronic CirCs. & Systems)
- 3 EM 378 (Mechanics of Fluids)
- 3 SSH Elective (Psych 101/230/250/280 or Soc 134)

16 Total Credits

### Senior Year

#### Semester 7

- 3 ConE 422 (Construction Cost Estimating)
- 3 ConE 441 (Constr Plan, Sched & Contrl)
- 3 EE 456 (Power System Analysis I)
- 3 CE 332 (Structural Analysis I)
- 3 SSH Elective (US Diversity)
- 3 Engineering topics elective

18 Total Credits

#### Semester 8

- 3 ConE 487 (Constr Engr Design I)
- 3 ConE 488 (Constr Engr Design II)
- 3 EE 457 (Power System Analysis II)
- 3 Business Comm (Engl 302, 309, or 314)
- 3 SSH Elective (Intl Perspective)

15 Total Credits

Shading indicates Basic Program courses

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# Construction Engineering

## Heavy/Highway Emphasis

2020-2021 Catalog

127 Total Credits

### First Year

#### Semester 1

- R Engr 101 (Engr Orientation)
- 3 CE 160 (Engr Problem Solving)
- 4 Math 165 (Calculus I)
- 4 Chem 167 (Chem for Engrs)
- 3 Engl 150 (Critical Thinking & Comm)
- 1 ConE 121 (Academic Learn Community)

15 Total Credits

#### Semester 2

- 2 CE 170 (Engineering Graphics)
- 4 Math 166 (Calculus II)
- 5 Phys 221 (Classical Physics I)
- 3 Engl 250 (WOVE Composition)
- 1 Lib 160 (Library)
- 1 ConE 122 (Prof Learning Community)

16 Total Credits

### Sophomore Year

#### Semester 3

- 3 ConE 222 (Contractor Org & Mgmt)
- 3 CE 111 (Fund of Surveying I)
- 3 Math or Stat Elective
- 4 Phys 232 (Classical Physics II)
- 1 Phys 232L (Classical Physics II lab)
- 3 Econ Elective (Econ 101 or 102)

17 Total Credits

#### Semester 4

- 3 ConE 241 (Constr Matrls & Methods)
- 1 ConE 251 ( Mech/Elec Mat/Methods )
- 4 Math 267 (Elem. Differential Equations)
- 3 IE 305 (Engineering Economics)
- 3 CE 274 (Statics)

14 Total Credits

### Junior Year

#### Semester 5

- 3 ConE 322 (Constr Equip/Heavy Methods)
- 3 EM 378 (Mechanics of Fluids)
- 3 Stat 305 or 231 (Engr Statistics)
- 3 SSH Elective (Psych 101/230/250/280 or Soc 134)
- 3 EM 324 (Mechanics of Materials)
- 3 Law Elective (ConE 380 or Acct 215)

18 Total Credits

#### Semester 6

- 3 ConE 340 (Concr & Steel Constr)
- 1 EM 327 (Mechanics of Materials Lab)
- 4 CE 360 (Soils Engineering)
- 3 CE 332 (Struct Analysis I)
- 3 SSH Elective (US Diversity)
- 3 ConE 422 (Constr Estimating)

17 Total Credits

### Senior Year

#### Semester 7

- 3 Engineering Topics Elective
- 3 ConE 441 ( Constr Plan, Sched & Contrl )
- 3 CE 382 (Dsgn of Concretes)
- 3 CE 333 (Struct Steel Dsgn I)
- 3 SSH Elective (International Perspective)

15 Total Credits

#### Semester 8

- 3 ConE 487 (Constr Engr Design I)
- 3 ConE 488 (Constr Engr Design II)
- 3 Engineering Topics Elective
- 3 CE 334 (Reinf Concr Dsgn I)
- 3 Business Comm Elective (Engl 302 or 309 or 314)

15 Total Credits

Shading indicates Basic Program courses

# Construction Engineering

## Mechanical Emphasis

2020-2021 Catalog

127 Total Credits

### First Year

#### Semester 1

- R Engr 101 (Engr Orientation)
- 3 CE 160 (Engr Problem Solving)
- 4 Math 165 (Calculus I)
- 4 Chem 167 (Chem for Engrs)
- 3 Engl 150 (Critical Thinking & Comm)
- 1 ConE 121 (Academic Learn Community)

15 Total Credits

#### Semester 2

- 2 CE 170 (Engineering Graphics)
- 4 Math 166 (Calculus II)
- 5 Phys 221 (Classical Physics I)
- 3 Engl 250 (WOVE Composition)
- 1 Lib 160 (Library)
- 1 ConE 122 (Prof Learning Community)

16 Total Credits

### Sophomore Year

#### Semester 3

- 3 ConE 222 (Contractor Org & Mgmt)
- 3 CE 111 (Fund of Surveying I)
- 3 Math/Stat Elective
- 4 Phys 232 (Classical Physics II)
- 1 Phys 232L (Classical Physics II lab)
- 3 Econ Elective (Econ 101 or 102)

17 Total Credits

#### Semester 4

- 3 ConE 241 (Constr Materials & Methods)
- 1 ConE 251 (Mech/Elec Mat/Methods)
- 4 Math 267 (Differential Equations)
- 3 CE 274 (Statics)
- 3 IE 305 (Engineering Economics)

14 Total Credits

### Junior Year

#### Semester 5

- 3 ME 231 (Thermodynamics)
- 3 ConE 352 (Mech Sys in Bldgs)
- 3 Con E 353 (Elec Sys in Bldgs)
- 3 EM 324 (Mech of Materials)
- 3 Stat 305 or 231 (Engr Statistics)
- 3 SSH Elective (Psych 101/230/250/280 or Soc 134)

18 Total Credits

#### Semester 6

- 3 Law Elective (ConE 380 or Acct 215)
- 2 EE 442 (Circuits & Instruments)
- 3 EM 378 (Mech of Fluids)
- 3 CE 332 (Struct Analysis I)
- 3 SSH Elective (US Diversity)
- 2 EE 448 (AC Circuits & Motors)

16 Total Credits

### Senior Year

#### Semester 7

- 3 ConE 422 (Constr Estimating)
- 3 ConE 441 (Constr Plan, Sched & Contrl)
- 4 ME 436 (Heat Transfer)
- 3 ME 441 (Fund of HVAC)
- 3 Engineering Topics Elective

16 Total Credits

#### Semester 8

- 3 ConE 487 (Constr Engr Design I)
- 3 ConE 488 (Constr Engr Design II)
- 3 ME 442 (Htg & Air Cond Design)
- 3 Business Comm (Engl 302, 309, or 314)
- 3 SSH Elective (Intl Persepective)

15 Total Credits

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