



**Bachelor of Science in Communications Engineering (BTENG)**

**Major Electives**

| Code  | Title    | Credits | Prerequisites | Corequisites |
|-------|----------|---------|---------------|--------------|
|       | Elective | 3       |               |              |
| Total |          | 3       |               |              |

**Core Requirements**

| Code     | Title                                               | Credits | Prerequisites               | Corequisites       |
|----------|-----------------------------------------------------|---------|-----------------------------|--------------------|
| CSCI250  | Introduction to Programming                         | 3       |                             | ENGL101 - CSCI250L |
| CSCI250L | Introduction to Programming Lab                     | 1       |                             | ENGL101 - CSCI250  |
| CSCI300  | Intermediate Programming with Objects               | 3       | CSCI250L - CSCI250          |                    |
| ENGG200  | Introduction to Engineering                         | 3       | MATH160 - CHEM160           |                    |
| ENGG300  | Engineering Economics                               | 3       | ENGL201 - MATH225           | MATH220            |
| ENGG450  | Engineering Ethics and Professional Practice        | 3       | ENGG300 - ENGL251           | CENG495            |
| MATH210  | Calculus II                                         | 3       | MATH161 - MATH160           |                    |
| MATH220  | Calculus III                                        | 3       | MATH210                     |                    |
| MATH225  | Linear Algebra with Applications                    | 3       | MATH160 - ENGL051 - MATH161 |                    |
| MATH270  | Ordinary Differential Equations                     | 3       | MATH210                     | MATH225            |
| MATH310  | Probability & Statistics for Scientists & Engineers | 3       | MATH210 - ENGL201           |                    |
| PHYS220  | Physics for Engineers                               | 3       | PHYS161 - ENGL101 - PHYS160 | MATH210            |
| Total    |                                                     | 34      |                             |                    |

**Major Requirements**

| Code     | Title                                | Credits | Prerequisites                         | Corequisites |
|----------|--------------------------------------|---------|---------------------------------------|--------------|
| CENG250  | Digital Logic I                      | 3       |                                       | EENG250      |
| CENG325  | Software Applications and Design     | 3       |                                       | CSCI300      |
| CENG335  | Digital Logic II                     | 3       | CSCI250 - CENG250                     |              |
| CENG352L | Digital Logic Circuits Lab           | 1       | CENG250 - EENG301L                    |              |
| CENG375  | Introduction to Database Systems     | 3       | CENG325 - CSCI300                     |              |
| CENG380  | Microprocessors and Microcontrollers | 3       | CENG250 - CENG335 - EENG250 - CSCI250 | CENG352L     |
| CENG400  | Computer Organization and Design     | 3       | CENG335 - CENG250 - CENG380           |              |
| CENG400L | Microcontroller Applications Lab     | 1       | CENG380                               |              |
| CENG415  | Communication Networks               | 3       | CENG250 - CENG325 - CSCI250 - CSCI300 |              |
| CENG420  | Web Programming and Technologies     | 3       | CENG325 - CSCI300 - CENG375           |              |
| CENG430L | Linux Lab                            | 1       | CENG380 - CENG325                     |              |
| CENG435  | Mobile Application Development       | 3       | CENG325 - CSCI300 - CENG375           |              |
| CENG450L | Scripting Languages Lab              | 1       | CENG430L                              |              |
| CENG455L | Communication Networks Lab           | 1       | CENG415                               |              |

|          |                                     |    |                                                                              |                   |
|----------|-------------------------------------|----|------------------------------------------------------------------------------|-------------------|
| CENG495  | Senior Project                      | 3  | CENG420 - EENG350 -<br>EENG447 - CENG435 -<br>CENG415 - CENG380 -<br>CENG375 |                   |
| EENG250  | Electric Circuits I                 | 3  | PHYS161 - PHYS160 - MATH161<br>- MATH160 - ENGL051                           | ENGG200 - MATH210 |
| EENG300  | Electric Circuits II                | 3  | EENG250                                                                      | EENG301L          |
| EENG301L | Electric Circuits Lab               | 1  | EENG250                                                                      | EENG300           |
| EENG350  | Electronic Circuits I               | 3  | ENGG200 - CENG250 -<br>EENG300 - EENG250                                     | EENG350L          |
| EENG350L | Electronic Circuits I Lab           | 1  | EENG300 - EENG250 -<br>EENG301L                                              | EENG350           |
| EENG385  | Signals and Systems                 | 3  | MATH225 - EENG300                                                            | MATH310 - MATH270 |
| EENG388  | Electromagnetic Fields and Waves    | 3  | MATH270 - PHYS220 -<br>MATH220 - EENG300                                     |                   |
| EENG447  | Analog Communication Systems        | 3  | MATH310 - EENG385                                                            |                   |
| EENG467L | Analog Communication Systems<br>Lab | 1  | EENG447                                                                      |                   |
| Total    |                                     | 56 |                                                                              |                   |

### General Education Requirements

| Code    | Title                                          | Credits | Prerequisites | Corequisites |
|---------|------------------------------------------------|---------|---------------|--------------|
| ARAB200 | Arabic Language and Literature                 | 3       |               |              |
| CULT200 | Introduction to Arab - Islamic<br>Civilization | 3       |               |              |
| ENGL201 | Composition and Research Skills                | 3       | ENGL151       |              |
| ENGL251 | Communication Skills                           | 3       | ENGL201       |              |
| Total   |                                                | 12      |               |              |

### General Education Electives

| Code  | Title    | Credits | Prerequisites | Corequisites |
|-------|----------|---------|---------------|--------------|
|       | Elective | 3       |               |              |
| Total |          | 3       |               |              |

### Major Elective Courses

| Code    | Title               | Credits | Prerequisites     | Corequisites |
|---------|---------------------|---------|-------------------|--------------|
| CENG460 | Operating Systems   | 3       | CENG380 - CSCI300 |              |
| CENG480 | Introduction to GIS | 3       | CENG415 - CENG375 |              |