

# BS IN ENGINEERING TECHNOLOGY

## Requirements for a Bachelor of Science in Engineering Technology

Additional Graduation Requirements (<https://catalog.una.edu/undergraduate/academic-procedures-requirements/graduation-requirements/>)

Code	Title	Hours
General Education Component ( <a href="https://catalog.una.edu/undergraduate/academic-procedures-requirements/general-education-component/">https://catalog.una.edu/undergraduate/academic-procedures-requirements/general-education-component/</a> )		
<b>Area I (Written Composition):</b>		<b>6</b>
<b>Area II (Humanities and Fine Arts):</b> <sup>1</sup>		<b>12</b>
COM 201	Fundamentals of Speech	
PHL 205	Ethics	
	or PHL 250 Business Ethics	
3 Hours Fine Arts Elective		
3 Hours Literature		
<b>Area III (Natural Science and Mathematics):</b> <sup>1</sup>		<b>12-15</b>
MA 115	Pre-Calculus Algebra and Trigonometry	
	or MA 112 College Algebra	
	& MA 113 and College Trigonometry	
CH 111 & 111L	General Chemistry and General Chemistry Laboratory	
PH 241	General Physics I	
	or PH 251 Technical Physics I	
<b>Area IV (History, Social and Behavioral Science):</b> <sup>1</sup>		
Any History Sequence		6
Social and Behavioral Science Courses		6
Area V ( <a href="https://www.una.edu/areav/">https://www.una.edu/areav/</a> ) <sup>1</sup>		
CS 135	Computer Skills for Problem-Solving	3
CS 155	Computer Science I	4
MA 121	Calculus for Business and Life Sciences I	3
	or MA 125 Calculus I	
MA 122	Calculus for Business and Life Sciences II	3
	or MA 126 Calculus II	
<b>Major Core Requirements in Engineering Technology</b>		
ET 100	Introduction to Engineering and Technology	3
ET 370	Engineering Economics	3
ET 495W	Engineering Tech Capstone	4
MA 345	Applied Statistics I	3
OHS 301	Occupational Safety and Health	3
<b>Choose from the following Options:</b>		<b>36-40</b>

Electro-Mechanical Engineering Technology (<https://catalog.una.edu/undergraduate/colleges-programs/arts-sciences/engineering-and-industrial-professions/engineering-technology-bs/#Electro-Mechanical-Engineering>)

Chemical Engineering Technology (<https://catalog.una.edu/undergraduate/colleges-programs/arts-sciences/engineering-and-industrial-professions/engineering-technology-bs/#chemicalengineering>)

Bio-Engineering Technology (<https://catalog.una.edu/undergraduate/colleges-programs/arts-sciences/engineering-and-industrial-professions/engineering-technology-bs/#bio-engineering>)

Power Generation Engineering Technology (<https://catalog.una.edu/undergraduate/colleges-programs/arts-sciences/engineering-and-industrial-professions/engineering-technology-bs/#Electro-Mechanical-Engineering>)

### Minor

A minor is not required for this major

**General Electives** **0-9**

General Elective Hours to bring total to 120

**Total Hours** **120**

<sup>1</sup> Substitution of other courses which meet General Education guidelines at discretion of Department Chair.

## Option 1: Electro-Mechanical Engineering Technology

Code	Title	Hours
ET 150	Computer Aided Drafting and Design	3
ET 150L	Computer Aided Drafting and Design - Lab	1
ET 200	Manufacturing Processes	3
ET 210	Electricity/Electronics Fundamentals and Green Energy	4
ET 220	Digital Electronics	3
ET 300	Materials Science	3
ET 310	Introduction to Solid Modeling	3
ET 320	Statics and Strength of Materials	4
ET 340	Power Transfer Technology	3
ET 350	Robotics and Automated Manufacturing	4
ET 360	Electrical Circuits and Devices	3
PH 242	General Physics II	4
	or PH 252 Technical Physics II	
Students must complete an additional 3 credit hours in any 100-400 level ET elective course.		3
300-400 Level Elective		3
<b>Total Hours</b>		<b>44-45</b>

## Option 2: Chemical Engineering Technology

Code	Title	Hours
BI 111	Principles of Biology	4
CH 112	General Chemistry	3
CH 112L	General Chemistry Laboratory	1
CH 311	Organic Chemistry	4
CH 311L	Organic Chemistry Laboratory	1
CH 341	Applied Physical Chemistry	3
CH 341L	Applied Physical Chemistry Laboratory	1
ET 300	Materials Science	3
ET 330	Thermodynamics	3
ET 301	Mass and Energy Balance	3
ET 401	Fluid Flow and Heat Transfer	4

ET 403	Chemical Reactors and Separators	5
ET 411	Process Modeling and Simulations	2
Students must complete an additional 3 credit hours in any 100-400 level ET elective course		3
<b>Total Hours</b>		<b>40</b>

### Option 3: Bio-Engineering Technology

Code	Title	Hours
BI 111	Principles of Biology	4
BI 112	Principles of Biology	4
BI 306	Genetics	4
BI 307	Microbiology	4
BI 406	Microbial Ecology and Evolution	4
CH 112	General Chemistry	3
CH 112L	General Chemistry Laboratory	1
ET 202	Introduction to Bio-Engineering and Computational Tools	2
ET 301	Mass and Energy Balance	3
ET 302	Bioprocess Engineering, Manufacturing, and Environmental Technology	5
ET 304	Bioreactor Design	3
ET 415	Molecular Biology for Engineers	4
Students must complete an additional 3 credit hours in any 100-400 level ET elective course.		3
<b>Total Hours</b>		<b>44</b>

### Option 4: Power Generation Engineering Technology Option

Code	Title	Hours
PH 242	General Physics II	4-5
or PH 252	Technical Physics II	
ET 150	Computer Aided Drafting and Design	3
ET 150L	Computer Aided Drafting and Design - Lab	1
ET 210	Electricity/Electronics Fundamentals and Green Energy	4
ET 214	Introduction to Electric Power Generation	3
ET 224	Power Plant Equipment and Instrumentation	4
ET 300	Materials Science	3
ET 314	Transmission, Distribution, and Grid Systems	3
ET 324	Power Plant Process Safety	3
ET 330	Thermodynamics	3
ET 401	Fluid Flow and Heat Transfer	4
ET 414	Electric Power Reliability and Maintenance	4
Students must complete an additional 3 credit hours in any 100-400 level ET elective course		3
<b>Total Hours</b>		<b>42-43</b>