

# ENGINEERING TECHNOLOGY - CIVIL (GEOMATICS) - BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
<b>General Education</b>		
<i>Area I: Communications</i>		
<i>English Composition - Level 1</i>		
ENGL 1110G or ENGL 1110H	Composition I Composition I Honors	4
<i>English Composition - Level 2</i>		
ENGL 2210G	Professional & Technical Communication (Recommended)	3
<i>Oral Communication</i>		
COMM 1115G or HNRS 2175G	Introduction to Communication (Either Recommended) Introduction to Communications Honors	3
<i>Area II: Mathematics</i>		
MATH 1511G or MATH 1435	Calculus and Analytic Geometry I <sup>1</sup> Applications of Calculus I	3-4
<i>Area III/IV: Laboratory Sciences and Social/Behavioral Sciences</i>		
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	11
Choose one sequence from the following for four credits:		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
<i>Area IV: Social/Behavioral Science Course (3 credits) <sup>2</sup></i>		
<i>Area V: Humanities <sup>2</sup></i>		
<i>Area VI: Creative and Fine Arts <sup>2</sup></i>		
<i>General Education Elective</i>		
MATH 1521G or MATH 1440	Calculus and Analytic Geometry II <sup>1</sup> Applications of Calculus II	3-4
<b>Viewing A Wider World <sup>3</sup></b>		
Courses must be taken from two different colleges, one being from the College of Business		
<b>Departmental/College Requirements</b>		
E T 154	Construction Methods and Communications	3
E T 240 or C E 233	Applied Statics Mechanics-Statics	3
E T 241	Applied Dynamics	3
E T 254	Concrete Technology	3
E T 308 & 308 L	Fluid Technology and Fluid Technology Lab	4

E T 310 & 310 L	Applied Strength of Materials and Applied Strength of Materials Lab	4
E T 332	Applied Design of Structures I	4
E T 354	Soil and Foundation Technology	4
E T 355	Site/Land Development and Layout	3
E T 410	Senior Seminar	1
E T 412	Highway Technology	3
E T 418	Applied Hydraulics	3
E T 420 or E T 421	Senior Internship Senior Project	3
E T 432	Applied Design of Structures II	4
ENGR 100G	Introduction to Engineering	3
I E 451	Engineering Economy	3
SUR 222 or DRFT 222	Plane Surveying Surveying Fundamentals	3

### Concentration Coursework

#### Technical and Survey Elective Requirements

Students can fulfill the Geomatics Technologies Concentration requirements by choosing four courses from below: 12

SUR 285	Precise Digital Mapping	
SUR 312	Legal Principles and Boundary Law I	
SUR 328	Construction Surveying & Automation Technologies	
SUR 351	Spatial Data Adjustment I	
SUR 361	Geodesy/Geodetic Control Surveying	
GEOG 381	Cartography and Geographic Information Systems	

#### Non-Departmental Requirements (in addition to Gen.Ed/VWW)

Choose one course from the following: 3-4

PHYS 1240G	Algebra-Based Physics II	
PHYS 1320G	Calculus -Based Physics II	
E T 190	Applied Circuits	
A ST 311	Statistical Applications	3
E T 109 or DRFT 109	Computer Drafting Fundamentals Computer Drafting Fundamentals	3
E T 200 or DRFT 143 or DRFT 153	Special Topics (Civil Drafting Fundamentals) Civil Drafting Fundamentals Survey Drafting Applications	3

#### Second Language: (not required)

**Electives, to bring the total credits to 120 <sup>4</sup>** **0-3**

Total Credits 120

<sup>1</sup> For students wishing to pursue a technical master's degree, MATH 1511G Calculus and Analytic Geometry I and MATH 1521G Calculus and Analytic Geometry II are recommended and will satisfy both the Area II and General Education Elective requirements.

Students who take MATH 1435 Applications of Calculus I and MATH 1440 Applications of Calculus II, will need to have an exception made for their degree audit.

*\*for either Mathematics course selection students may need to take any prerequisites needed to enter the class(es) first.*

<sup>2</sup> See the [General Education](#) section of the catalog for a full list of courses

<sup>3</sup> See the [Viewing a Wider World](#) section of the catalog for a full list of courses

<sup>4</sup> Elective credit may vary based on Math course selection, prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

## A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

Course	Title	Credits
<b>First Year</b>		
<b>Fall</b>		
ENGR 100G	Introduction to Engineering	3
ET 154	Construction Methods and Communications	3
Choose one sequence from the following:		4
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
MATH 1511G or MATH 1435	Calculus and Analytic Geometry I <sup>1</sup> or Applications of Calculus I	3-4
Area IV: Social/Behavioral Sciences Course <sup>2</sup>		3
Credits		16-17
<b>Spring</b>		
ENGL 1110G or ENGL 1110H	Composition I or Composition I Honors	4
MATH 1521G or MATH 1440	Calculus and Analytic Geometry II <sup>1</sup> or Applications of Calculus II	3-4
ET 240 or C E 233	Applied Statics or Mechanics-Statics	3
ET 254	Concrete Technology	3
Area V: Humanities Course <sup>2</sup>		3
Credits		16-17
<b>Second Year</b>		
<b>Fall</b>		
ET 109 or DRFT 109	Computer Drafting Fundamentals or Computer Drafting Fundamentals	3
SUR 222 or DRFT 222	Plane Surveying or Surveying Fundamentals	3
ENGL 2210G	Professional & Technical Communication	3
COMM 1115G or HNRS 2175G	Introduction to Communication or Introduction to Communications Honors	3
Area VI: Creative and Fine Arts Course <sup>2</sup>		3
Credits		15
<b>Spring</b>		
ET 308 & 308 L	Fluid Technology and Fluid Technology Lab	4
Choose one from the following:		3-4
PHYS 1240G	Algebra-Based Physics II	
PHYS 1320G	Calculus -Based Physics II	
ET 190	Applied Circuits	

CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	4
Elective Course <sup>3</sup>		3
Credits		14-15
<b>Third Year</b>		
<b>Fall</b>		
ET 310 & 310 L	Applied Strength of Materials and Applied Strength of Materials Lab	4
ET 200 or DRFT 143 or DRFT 153	Special Topics (Civil Drafting Fundamentals) or Civil Drafting Fundamentals or Survey Drafting Applications	3
ET 354	Soil and Foundation Technology	4
ET 241	Applied Dynamics	3
Credits		14
<b>Spring</b>		
ET 332	Applied Design of Structures I	4
ET 355	Site/Land Development and Layout	3
Geomatics Concentration Elective Course <sup>4</sup>		3
Geomatics Concentration Elective Course <sup>4</sup>		3
Viewing a Wider World Course <sup>5</sup>		3
Credits		16
<b>Fourth Year</b>		
<b>Fall</b>		
ET 432	Applied Design of Structures II	4
IE 451	Engineering Economy	3
A ST 311	Statistical Applications	3
Geomatics Concentration Elective Course <sup>4</sup>		3
Viewing a Wider World Course (from the College of Business) <sup>5</sup>		3
Credits		16
<b>Spring</b>		
ET 418	Applied Hydraulics	3
ET 412	Highway Technology	3
ET 410	Senior Seminar	1
ET 420 or ET 421	Senior Internship or Senior Project	3
Geomatics Concentration Elective Course <sup>4</sup>		3
Credits		13
Total Credits		120-123

<sup>1</sup> Students may need to take any prerequisites needed to enter MATH 1511G Calculus and Analytic Geometry I/MATH 1435 Applications of Calculus I or MATH 1521G Calculus and Analytic Geometry II/MATH 1440 Applications of Calculus II before enrolling in either option of coursework.

*\*For students wishing to pursue a technical master's degree, MATH 1511G Calculus and Analytic Geometry I and MATH 1521G Calculus and Analytic Geometry II are recommended and will satisfy both the Area II and General Education Elective requirements. Students who take MATH 1435 Applications of Calculus I and MATH 1440 Applications of Calculus II, will need to have an exception made for their degree audit.*

<sup>2</sup> See the [General Education](#) section of this catalog for a full list of courses

<sup>3</sup> Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

- 4 **Geomatics Concentration Electives:**
- SUR 285 Precise Digital Mapping
  - SUR 312 Legal Principles and Boundary Law I
  - SUR 328 Construction Surveying & Automation Technologies
  - SUR 351 Spatial Data Adjustment I
  - SUR 361 Geodesy/Geodetic Control Surveying
  - GEOG 381 Cartography and Geographic Information Systems
- 5 See the [Viewing a Wider World](#) section of this catalog for a full list of courses