CIVIL ENGINEERING TECHNOLOGY - BACHELOR OF SCIENCE IN ENGINEERING TECHNOLOGY

The **Civil Engineering Technology** (CET) program at NMSU will prepare graduates with the technical and managerial skills necessary to enter careers in planning, designing, constructing, and operating the built environment and global infrastructure. Graduates with the baccalaureate degree have strengths in their knowledge of design, construction, testing, and operation of buildings and infrastructure with the ability to produce and utilize construction documents, analyze and design systems, specify project methods and materials, perform cost estimates and analyses, and manage technical activities in support of civil projects. Graduates from our ABET-accredited CET program can pursue professional licensure and become professional engineers.

The **Civil Engineering Technology** program is accredited by the Engineering Technology Accreditation Commission of ABET, https://www.abet.org (https://www.abet.org/), under the commission's General Criteria and Program Criteria for *Civil Engineering Technology and Similarly Named Programs*.

Concentrations

- Renewable Energy Technologies (https://catalogs.nmsu.edu/nmsu/engineering/engineering-technology-surveying/engineering-technology-civil-renewable-energy-tech-bachelor-science-engineering-technology/)
- Transportation Technology (https://catalogs.nmsu.edu/nmsu/engineering/engineering-technology-surveying/engineering-technology-civil-transportation-tech-bachelor-science-engineering-technology/)

Minors

- Renewable energy (https://catalogs.nmsu.edu/nmsu/engineering/engineering-technology-surveying/renewable-energy-technologies-undergraduate-minor/)
- Geomatics (https://catalogs.nmsu.edu/nmsu/engineering/engineering-technology-surveying/geomatics-undergraduate-minor/)

Types of jobs that graduates pursue in this field

- Civil Engineer
- Construction Manager
- Project Engineer
- Project Manager
- Design Engineer
- Construction Inspector
- Owner
- Estimator
- Distribution and Sales

Civil Engineering Technology- (No Concentration)

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 to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1		*4*
ENGL 1110G	Composition I	
or ENGL 1110H	Composition I Honors	
English Composition - Level 2		*3*
ENGL 2210G	Professional and Technical Communication	
or ENGL 2210H	Professional and Technical Communication	
Oral Communication		*3*
COMM 1115G	Introduction to Communication	
or HNRS 2175G	Introduction to Communication Honors	
Area II: Mathematics		*4*
MATH 1511G	Calculus and Analytic Geometry I [1]	
or MATH 1511H	Calculus and Analytic Geometry I Honors	
Area III: Laboratory Sciences		*8*
CHEM 1120G	Introduction to Chemistry Lecture and Laboratory (non majors)	
or GEOL 1110G	Physical Geology	
Choose one sequence from the following for four credits:		
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
or PHYS 1310G & PHYS 1310L	Calculus -Based Physics I and Calculus -Based Physics I Lab	
Area IV: Social/Behavioral Sciences [2]		*3*
Area V: Humanities [2]		*3*
Area VI: Creative and Fine Arts [2]		*3*
General Education Elective		
MATH 1521G	Calculus and Analytic Geometry II [1]	4
or MATH 1521H	Calculus and Analytic Geometry II Honors	
Viewing A Wider World [3,4]		**6**
Departmental/College Requirements		
A ST 311	Statistical Applications	3
or MATH 1350G	Introduction to Statistics	
E T 101	Introduction to Engineering Technology	1
E T 109	Computer Drafting Fundamentals	3
E T 143	Civil/Survey Drafting I	3
E T 154	Construction Methods and Communications	3
E T 254	Concrete Technology	3
E T 308	Fluid Technology	3
E T 308 L	Fluid Technology Lab	1
E T 310	Applied Strength of Materials	3
E T 310 L	Applied Strength of Materials Lab	1
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 421	Senior Project	3
E T 432	Applied Design of Structures II	4
E T 459	Construction Technology and Management	3
ENGR 120	DC Circuit Analysis	3-4
or PHYS 1240G	Algebra-Based Physics II	
or PHYS 1320G	Calculus -Based Physics II	
ENGR 190	Introduction to Engineering Mathematics	4
ENGR 233	Engineering Mechanics I	3
ENGR 234	Engineering Mechanics II	3
I E 451	Engineering Economy	3
SUR 222	Introduction to Geomatics	3
Geomatics/Surveying Elective (choose 1 course from the list below)		*3*
SUR 328 & 328L	Construction Surveying & Automation Technologies and Construction Surveying & Automation Technologies Lab	
SUR 351	Spatial Data Adjustment I	
SUR 361	Geodesy/Geodetic Control Surveying	
Technical Electives (choose 2 courses from the list below) [4]		*6*
E T 381	Renewable Energy Technologies	
E T 382	Solar Energy Technologies	
E T 384	Wind and Water Energy Technologies	
E T 386	Sustainable Construction and Green Building Design	
E T 420	Engineering Internship [5]	
E T 472	Intelligent Transportation Systems (ITS)	
ENGR 400	Special Topics (Choose three 1-credit courses related to the field) [5]	
Second Language: (not required)		
Electives, to bring the total credits to 120		**0**
Total Credits		**121-122**

1. Students may need to take any prerequisites needed before enrolling in MATH 1511G Calculus and Analytic Geometry I or MATH 1521G Calculus and Analytic Geometry II. These courses satisfy both the Area II and General Education Elective requirements.
2. See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses
3. See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses
4. Concentrations are *"optional"* educational sequences that students may chose to focus on particular areas related to CET. Concentrations may often be done without additional credits by judicious use of electives and other optional course requirements.
5. Verify with your faculty advisor for pre-approval of ENGR 400 Special Topics that are related to the field and for discussion of E T 420 Engineering Internship limitations and specifications.

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.

First Year

Fall		**Credits**
ENGL 1110G or ENGL 1110H	Composition I or Composition I Honors	4
E T 101	Introduction to Engineering Technology	1
E T 154	Construction Methods and Communications	3
ENGR 120 or PHYS 1240G or PHYS 1320G	DC Circuit Analysis or Algebra-Based Physics II or Calculus -Based Physics II	3-4
ENGR 190	Introduction to Engineering Mathematics	4
	Credits	**15-16**
Spring		
E T 109	Computer Drafting Fundamentals	3
CHEM 1120G or GEOL 1110G	Introduction to Chemistry Lecture and Laboratory (non majors) or Physical Geology	4
MATH 1511G or MATH 1511H	Calculus and Analytic Geometry I [1] or Calculus and Analytic Geometry I Honors	4
Area III: Lab Sciences (Choose one)		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	
	Credits	**15**
Second Year		
Fall		
COMM 1115G or HNRS 2175G	Introduction to Communication or Introduction to Communication Honors	3
E T 143	Civil/Survey Drafting I	3
ENGL 2210G or ENGL 2210H	Professional and Technical Communication or Professional and Technical Communication	3
ENGR 233	Engineering Mechanics I	3
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II [1] or Calculus and Analytic Geometry II Honors	4
	Credits	**16**
Spring		
Area IV: Social Behavior Sciences [2]		3
E T 254	Concrete Technology	3
E T 308	Fluid Technology	3
E T 308 L	Fluid Technology Lab	1
ENGR 234	Engineering Mechanics II	3
SUR 222	Introduction to Geomatics	3
	Credits	**16**
Third Year		
Fall		
Area V: Humanities [2]		3
E T 310	Applied Strength of Materials	3
E T 310 L	Applied Strength of Materials Lab	1
E T 354	Soil and Foundation Technology	4
Viewing a Wider World [3]		3
	Credits	**14**
Spring		
Area VI: Creative and Fine Arts [2]		3
E T 332	Applied Design of Structures I	4
E T 355	Site/Land Development and Layout	3

Surveying Elective Course (from pre-approved list) [4]		3
Technical Elective Course (from pre-approved list) [5]		3
	Credits	**16**
Fourth Year		
Fall		
A ST 311 or MATH 1350G	Statistical Applications or Introduction to Statistics	3
E T 432	Applied Design of Structures II	4
E T 459	Construction Technology and Management	3
I E 451	Engineering Economy	3
Technical Elective Course (from pre-approved list) [5]		3
	Credits	**16**
Spring		
E T 410	Senior Seminar	1
E T 412	Highway Technology	3
E T 418	Applied Hydraulics	3
E T 421	Senior Project	3
Viewing a Wider World [3]		3
	Credits	**13**
	Total Credits	**121-122**

1. Students may need to take any prerequisites needed before enrolling in MATH 1511G Calculus and Analytic Geometry I or MATH 1521G Calculus and Analytic Geometry II. These courses satisfy both the Area II and General Education Elective requirements.
2. See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of this catalog for a full list of courses
3. See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of this catalog for a full list of courses
4. **Surveying Electives:** SUR 328 Construction Surveying & Automation Technologies, SUR 351 Spatial Data Adjustment I, or SUR 361 Geodesy/Geodetic Control Surveying
5. **Technical Elective Courses:** Select from the list or any SUR 300+ (in addition to the required Surveying Elective), ENGR 400 Special Topics that are related to the field, and E T 420 Engineering Internship, subject to faculty advisor pre-approval.