Bachelor of Science
Engineering Technology Official Program Guide for:
***Engineering and Technical Operations Concentration – Off Site Program**

Liberal Studies **(42 hours)**

(may be taken at a North Carolina Community College, or student may opt to fulfill the 44 hour Comprehensive Core at the community college)

- C1: ENGL I (3)
- C1: ENGL II (3)
- C2: MATH (waived, program requirement) (3)
- C3: Oral Comm. (3)
- C4: Wellness (3)
- C5: Science (waived, program requirement) (3)
- C5: Science (waived, program requirement) (3)
- P1: Soc. Science (3)
- P1: Soc. Science (3)
- P3: History (3)
- P4: Humanities (3)
- P5: Fine/Perf Arts (3)
- P6: World Cult. (3)
- First Year Sem. (waived, program requirement) (3)
- Upper Level Req. (3)

**The complete Liberal Studies program of 42 hours is listed. However, the ET-ETO program requirements satisfy 12 hours, reducing the effective total to 30 hours in this category.*

ETO Program Requirements **(16 hours)**

(mathematics and science courses that are required in the major may be used to satisfy liberal studies categories C2 and C5.(Courses in red indicate community college equivalents approved by the department of engineering and technology at WCU))

CHEM 139	General Chemistry	C5 (3)	CHM 151
PHYS 130	Physics I	C5 (3)	PHY 131, 130
MATH 153	Calculus I	(4)	MAT 271
MATH 146	Pre Calculus	C2 (3)	MAT 171, 175
MATH 170	Applied Statistics	(3)	MAT 151, 155

ETO Lower Level Core **(12 hours)**

(Equivalent may be taken at a North Carolina Community College - Courses in red indicate community college equivalents approved by the department of engineering and technology at WCU)

ENGR 132	Engineering Graphics	(3) DFT 151, 120,170; ETO 19G
ET 141	Engineering Materials and Processes	(3) MEC 145; ETO 19M
ME 231	3-D Computer Modeling	(3) DFT 152; ETO 19C
ET 232	Statics and Strength of Materials	(3) MEC 250, 252; ETO 19S

A selection of ten (10) Upper Level Elective Courses from the following list of courses (33 hours)

ENGL 305	Technical Writing	(3)
ET 310	Adv. 3-D Mod. and Rapid Prototyping	(3)
ET 331	Quality Systems	(3)
ET 335	Occupational Safety Standards	(3)
ET 362	Engineering Logistics	(3)
ET 420	Eng. Materials	(3)
ET 434	Plant Layout	(3)
ET 435	Technology and Civilization	(3)

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- ET 436 Engineering Economic Analysis (3)
- ET 461 Engineering Project Management (3)
- ET 478 Integrated Systems Project (3)
- ECET 301 Electrical Systems (3)
- ET 342 Lean Manufacturing Systems (3)
- ET 349 Rapid Tooling and Prototyping (3)
- ET 351 Engineering Analysis (3)
- ET 425 Metrology and Reverse Engineering (3)
- ET 441 Power Transmission Systems (3)
- ET 449 Adv. Tooling and Rapid Prototyping (3)
- ET 470 AIDC for the Enterprise (3)
- ET 472 Integrated Control Systems (3)
- ET 480 Independent Study (3)
- ET 493 Special Topics (3)
- ET 495 Engineering Technology Seminar (3)

Transferred Engineering Technology Electives **(21 hours)**

- 100-200 Level ET electives (15)
- 200 Level ET electives (6)

Transferred General Electives **(12 hours)**

- 100-200 Level general electives (12)

Total **(124 hours)**

Additional Information

Students in this option must complete 124 semester hours, which includes the following:

- General university degree requirements as specified in the Western undergraduate catalog
- 42-hour Liberal Studies component as specified in the Western undergraduate catalog (or completion of the 44 hour Comprehensive Articulation Agreement between the NC community College System and the University of North Carolina System)
- Minimum of 33 semester hours of WCU course work at the upper level (junior/senior)
- Additional 12 hours of 200-level transferred electives in the major
- Specified courses in mathematics and science
- Electives component

**The Engineering and Technical Operations (ETO) program is not accredited by ABET: www.abet.org.*