

B.S. in Construction Engineering Curriculum Flowchart 120 Credit Hours

**For Students Enrolling at UMES
in
Fall 2026**

FRESHMAN

Fall	Spring
GEP 1.1 Arts & Humanities (ARTS 101, ARTS 310, ARAB 101, ASLS 203, CHIN 101, ENGL 204*, ENGL 205*, ENGL 206*, ENGL 207*, FREN 101, HIND 101, HONR 101, JAPN 101, KORE 101, PORT 101, SPAN 101, THAR 101) [3 Cr](NP) (*PR: ENGL 101, 102)	CSDP 120 Introduction to Computer Programming [3 Cr] (PR: MATH 110)
CHEM 111 Principles of Chemistry I [3 Cr] (CR: CHEM 113)	GEP 5.2 ENGL 102 Principles of Composition II [3 Cr] (PR: ENGL 101)
CHEM 113 Principles of Chemistry I Lab [1 Cr] (CR: CHEM 111)	GEP 3 ENVS 101 Introduction to Environmental Sciences [3 Cr](NP)
GEP 6.1 ENGL 100 First-Year Orientations with Engineering [1 Cr] (NP)	MATH 211 Calculus II [4 Cr] (PR: MATH 112)
GEP 5.1 ENGL 101 Principles of Composition I [3 Cr] (NP)	GEP 3 PHYS 161 General College Physics I [3 Cr] (PR: MATH 112/CR: PHYS 163)
GEP 4 MATH 112 Calculus I [4 Cr] (PR: MATH 110 or Satisfactory SAT or ACT Score)	GEP 3 PHYS 163 General College Physics I Laboratory [1 Cr] (CR: PHYS 161)
15 Credits	17 Credits

SOPHOMORE

Fall	Spring
CENG 201 Engineering Graphics [3 Cr] (NP)	CENG 214 Surveying and Geomatics [3 Cr] (PR: CENG 201, MATH 112)
GEP 2 ECON 201 Principles of Economics (Macro) [3 Cr] (PR: MATH 102 or Higher)	CENG 230 Construction Materials [3 Cr] (PR: CHEM 111, PHYS 161)
ENGE 260 Statics [3 Cr] (PR: MATH 112)	GEP 2 Elective Social Sciences (CRJS 101, ECON 202, GEOG 201, GEOG 202, HIST 101, HIST 102, HIST 201, HIST 202, HONR 201, HUEC 203, HUEC 220, HUEC 361, PHIL 201, PHIL 202, POLI 200, POLI 220, POLI 342, PSYC 100, SOCI 101, SOCI 201) [3 Cr] (PR: As specified by the selected course)
MATH 212 Calculus III [4 Cr] (PR: MATH 211)	GEP 1.2 ENGL 203 Fundamentals of Contemporary Speech [3 Cr] (PR: ENGL 101, ENGL 102)
PHYS 262 General College Physics II [3 Cr] (PR: PHYS 161, PHYS 163/CR: PHYS 264)	MATH 241 Differential Equations [3 Cr] (PR: MATH 211)
PHYS 264 General College Physics II Laboratory [1 Cr] (CR: PHYS 262)	
17 Credits	15 Credits

JUNIOR

Fall	Spring
GEP 6.2 BUAD 213 Business Software Applications [3 Cr] (NP)	GEP 6.3 BUAD 311 Justice and Diversity in Organizations [3 Cr] (PR: ENGL 102)
CENG 325 Construction Methods and Equipment [3 Cr] (PR: CENG 201, CENG 230, PHYS 262)	CENG 310 Structural Analysis [3 Cr] (PR: ENGE 362, MATH 241)
CENG 363 Properties and Mechanics of Materials Lab [1 Cr] (PR: CENG 230/CR: ENGE 362)	CENG 350 Fluid Mechanics and Hydraulics [3 Cr] (PR: MATH 241, PHYS 161)
ENGE 320 Statistics and Probability for Engineers [3 Cr] (PR: MATH 211)	CENG 386 Construction Planning and Scheduling [3 Cr] (PR: CENG 230, ENGE 320)
ENGE 362 Mechanics of Materials [3 Cr] (PR: ENGE 260, MATH 211)	CENG 445 Construction Cost Estimating and Control [3 Cr] (PR: CENG 201, CENG 230)
GEP 5.3 ENGL 305 Technical Writing [3 Cr] (PR: ENGL 101, ENGL 102, ENGL 203), or ENGL 310 Advanced Composition [3 Cr] (PR: ENGL 101, ENGL 102)	
16 Credits	15 Credits

SENIOR

Fall	Spring
CENG 410 Structural Steel Design [3 Cr] (PR: CENG 310)	CENG 412 Reinforced Concrete Design [3 Cr] (PR: CENG 310)
CENG 420 Construction Engineering Systems [3 Cr] (PR: CENG 386, ENGE 320)	CENG 440 Construction Safety and Health Management [3 Cr] (PR: CENG 425)
CENG 425 Construction Project Management [3 Cr] (PR: CENG 325, CENG 386)	CENG 458 Construction Engineering Design Project [3 Cr] (PR: Senior Standing, CENG 425, CENG 445)
CENG 427 Soil Mechanics and Foundation Engineering [3 Cr] (PR: CHEM 111, CENG 230, ENGE 362)	Core Elective Course (CENG 305, CENG 320, CENG 326, CENG 330, CENG 360, CENG 416, CENG 430, CENG 450, CENG 499, ENGE 370) [3 Cr] (PR: As specified by the selected course)
12 Credits	12 Credits

Summer

CENG 395
Internship [1 Cr]
(PR: Junior Standing, Permission of Instructor)

1 Credits

Abbreviations: **NP**- No Prerequisites, **PR**- Prerequisite, **CR**- Corequisite, **SOPH**- Sophomore Standing, **JUNI**- Junior Standing, **SENR**- Senior Standing

General Education Program

Construction Core Courses

Supporting Courses