

Brought to you by STEM UP CNM/UNM Cooperative Initiative

**Central New Mexico Community College**

Associate of Science in Engineering

and

**University of New Mexico**

School of Engineering-CHEMICAL ENGINEERING

**Transfer Agreement**

Fall 2015 – Summer 2018

· Degree requirements for the Associate of Science in Engineering and the coursework's transfer applicability to UNM School of Engineering Civil Engineering degree program listed.

· Meet with UNM's Engineering Student Services to determine admission requirements into the School of Engineering and specific engineering degree programs. Admission requirements vary: some specify an amount of transferable and applicable credit hours, a specific prescribed coursework and a minimum GPA requirement.

· Students must meet with CNM STEM UP advisors each semester to plan courses and meet prerequisites for the A.S. and B.S. programs.

Central New Mexico Community College	University of New Mexico
Associate of Science in: Engineering (73-74 credit hours)	Bachelor of Science in: Chemical Engineering (123 credit hours)
<b>Oral and Written Communication</b> Complete 9 credit hours	
ENG 1101 College Writing (3)	ENGL 110 Accelerated Composition (3)
ENG 1102 Analytic and Argumentative Writing (3)	ENGL 120 Composition III (3)
ENG 2219 Technical Writing (3)	ENGL 219 Technical and Professional Writing (3)
<b>Mathematics</b> Complete 15 credit hours	
MATH 1710 Calculus I (4)	MATH 162 Calculus I (4)
MATH 1715 Calculus II (4)	MATH 163 Calculus II (4)
MATH 2710 Calculus III (4)	MATH 264 Calculus III (4)
<sup>1</sup> MATH 2910 Applied Ordinary Differential Equations (3)	<sup>1</sup> MATH 316T Applied Ordinary Differential Equations (3) <i>* MATH 316T also is a requirement for Chemical Engineering Majors.</i>
<b>Laboratory Sciences</b> Complete 14 credit hours	
CHEM 1710 General Chemistry I (3) and CHEM 1792 General Chemistry I (1)	CHEM 121 General Chemistry I (3) and CHEM 123L General Chemistry I Lab (1)
PHYS 1710 Physics for Scientists and Engineers I (4) and PHYS 1792 Physics for Scientists and Engineers I Lab (1)	PHYC 160 General Physics (3) and PHYC 160L General Physics Lab (1)
PHYS 1810 Physics for Scientists and Engineers II (4) and PHYS 1892 Physics for Scientists and Engineers II Lab (1)	PHYC 161 General Physics (3) and PHYC 161L General Physics Lab (1)
<b>Social and Behavioral Sciences</b> Complete 6 credit hours	
<b>Note: UNM Mechanical Engineering program requires ECON 105 (CNM equivalent, ECON 2200)</b>	
ECON 2200 Macroeconomics (3)	ECON 105 Introductory Macroeconomics (3)
<b>CHOOSE ADDITIONAL 3 CREDIT HOURS FROM COURSES BELOW</b>	
ANTH 1101 Intro Anthropology (3)	ANTH 101 Introduction to Anthropology (3)
ANTH 1110 Language Culture and the Human Animal (3)	ANTH 110 Language, Culture and the Human Animal (3)
ANTH 1120 Archaeology: Discovering Our Past (3)	ANTH 220 World Archaeology (3)
ANTH 1121/1192 Archaeology Field Methods with Laboratory (4)	ANTH 120/122L Archaeological Method and Theory w/ Lab (4)
ANTH 1130 Cultures of the World (3)	ANTH 130 Cultures of the World (3)
ANTH 2238 Cultures of the Southwest (3)	ANTH 238 Cultures of the Southwest (3)
CST 1150 Introduction to Cultural Studies (3)	AMST 185 Introduction to Race, Class and Ethnicity (3)
CST 2260 Popular Culture and Cultural Identity (3)	AMST 184 Introduction to American Popular Culture (3)
ECON 1101 Introduction to Economics (3)	Economics General Elective (3)
ECON 2201 Microeconomics (3)	ECON 106 Introductory Microeconomics (3)
ECON 2203 Society and Environment (3)	ECON 103 Society and Environment (3)

GEOG 1102 Human Geography (3)	GEOG 102 Human Geography (3)
PSCI 1110 Political World (3)	POLS 110 The Political World (3)
PSCI 2200 U.S. Politics (3)	POLS 200 American Politics (3)
PSCI 2210 State and Local Politics (3)	POLS 299 Introductory Political Topics (3)
PSCI 2220 Comparative Government and Politics (3)	POLS 220 Comparative Politics (3)
PSCI 2240 International Politics (3)	POLS 240 International Politics (3)
PSCI 2260 Political Ideas (3)	POLS 260 Political Ideas (3)
PSY 1105 Introduction to Psychology (3)	PSY 105 General Psychology (3)
PSY 2220 Developmental Psychology (3)	PSY 220 Developmental Psychology (3)
PSY 2231 Human Sexuality (3)	PSY 231 Psychology of Human Sexuality (3)
PSY 2233 Psychology and Film (3)	PSY 250 Special Topics in Psychology (3)
SOC 1101 Introduction to Sociology (3)	SOC 101 Introduction to Sociology (3)
SOC 2205 Crime Public Safety and the Criminal Justice System (3)	SOC 205 Crime, Public Policy and the Criminal Justice System (3)
SOC 2211 Social Problems (3)	SOC 211 Social Problems (3)
SOC 2213 Deviant Behavior (3)	SOC 213 Deviance (3)
SOC 2216 Ethnic and Minority Group (3)	SOC 216 The Dynamics of Prejudice (3)
SOC 2221 Global Issues (3)	SOC 221 Global Issues (3)
SOC 2225 Sociology of Family (3)	SOC 225 Marriage, Family and their Alternatives (3)
<sup>1</sup> SOC 2235 Sociology of Gender (3)	<sup>1</sup> SOC 308 Sociology of Gender (3)
<b>Humanities</b> Complete 6 credit hours	
ENG 1150 Study of Literature (3)	ENGL 150 The Study of Literature (3)
ENG 2250 Analysis of Literature (3)	ENGL 250 The Analysis of Literature (3)
ENG 2251 Introduction to Dramatic Literature (3)	ENGL English General Elective (3)
ENG 2252 Introduction to Shakespeare (3)	ENGL English General Elective (3)
ENG 2262 Survey of Earlier World Literature (3)	ENGL 292 World Literatures: Ancient World through the 16 <sup>th</sup> Century (3)
ENG 2263 Survey of Later World Literature (3)	ENGL 293 World Literatures: 17 <sup>th</sup> Century through the Present (3)
ENG 2270 Modern Literature (3)	ENGL 287 Topics in Introductory Studies in Genre (3)
ENG 2282 Modern Latin America Literature (3)	ENGL English Elective (3)
ENG 2284 Survey of Earlier English Literature (3)	ENGL 294 Survey of Earlier English Literature (3)
ENG 2285 Survey of Later English Literature (3)	ENGL 295 Survey of Later English Literature (3)
ENG 2287 Earlier American Literature (3)	ENGL 296 Earlier American Literature (3)
ENG 2288 Latin American Literature (3)	ENGL 297 Later American Literature (3)
GNHN 1121 General Honors: The Ancient Legacy (3)	UHON 121 Freshman University Honors Seminar (3)
GNHN 1122 General Honors: The Modern Legacy (3)	UHON 122 Freshman University Honors Seminar (3)
GNHN 2211 Utopian and Dystopian Thought (3)	UHON University Honors Program General Elective (3)
HIST 1101 Western Civilization I (3)	HIST 101 Western Civilization to 1648 (3)
HIST 1102 Western Civilization II (3)	HIST 102 Western Civilization Post 1648 (3)
HIST 1161 History of the United States I (3)	HIST 161 History of the United State to 1877 (3)
HIST 1162 History of the United States II (3)	HIST 162 History of the United State Since 1877 (3)
HIST 1181 Early Latin American History (3)	HIST 181 History of Early Latin America (3)
HIST 1182 Modern Latin American History (3)	HIST 182 Modern Latin American History (3)
HIST 2240 Vietnam: War Politics and Culture (3)	HIST 220 Studies in History (3)
HIST 2260 History of New Mexico (3)	HIST 260 History of New Mexico (3)
HIST 2270 The American West (3)	HIST 220 Studies in History (3)
HUM 1111 Cultures of Civilization (3)	HIST 101 Western Civilization to 1648 (3)
HUM 1121 Cultures and Civilization Renaissance to Present (3)	HIST 102 Western Civilization Post 1648 (3)
PHIL 1102 Ethics in Society (3)	PHIL 102 Current Moral Problems (3)
PHIL 1110 Introduction of Philosophical Thought (3)	PHIL 101 Introduction to Philosophy (3)
PHIL 1156 Logic and Critical Thinking (3)	PHIL 156 Reasoning and Critical Thinking (3)
PHIL 2246 Environmental Ethics (3)	PHIL 245 Professional Ethics (3)
PHIL 2247 Biomedical Ethics (3)	PHIL 245 Professional Ethics (3)
RLGN 1107 Living World Religions (3)	RELG 107 Living World Religions (3)
RLGN 2240 Ancient Religions (3)	RELG 247 Studies in Religion (3)
RLGN 2263 Eastern Religions (3)	RELG 263 Eastern Religions (3)
SPAN 2280 Introduction to Hispanic Literature (3)	SPAN Spanish General Elective (3)

<b>Fine Arts</b>	
Complete 3 credit hours	
ARTH 1101 Introduction to Art (3)	ARTH 101 Introduction to Art (3)
ARTH 2201 History of Art I (3)	ARTH 201 History of Art (3)
ARTH 2202 History of Art II (3)	ARTH 202 History of Art II (3)
ARTH 2250 Modern Art (3)	ARTH 250 Modern Art (3)
ARTH 2251 Art of the American Southwest (3)	ARTH 2251 Artistic Traditions of the Southwest (3)
ARTH 2260 Architectural History: Ancient through Modern (3)	ARTH Art History General elective (3)
ENG 2210 Film as Literature (3)	MA 210 Introduction to Film Studies (3)
MUS 1139 Early Music Appreciation (3)	MUS 139 Music Appreciation (3)
MUS 1140 Modern Music Appreciation (3)	MUS Music General Elective (3)
MUS 1172 Introduction to Jazz (3)	MUS 172 Jazz history (3)
THEA 1122 Introduction to Theatre (3)	THEA 105 Theatre Appreciation (3)

<b>CNM -Engineering A.S. Program Requirements</b>	
Complete 8 credit hours	

ENGR 1010 Survey of Engineering (1) <i>Required to earn the A.S. Degree</i>	<i>No UNM course equivalent</i>
<sup>2</sup> IT 1010 Computer Concepts and Software Applications (3) <i>Required to earn the A.S. Degree</i>	<sup>2</sup> CS 150L Computing for Business Students (3) <b>NOTE</b> --UNM/ CS 150L is not a requirement for the listed UNM Engineering B.S. program. It is listed here only to demonstrate equivalency
CSCI 1151 Introduction to Programming for Non-Computer Science Majors (4)  <b>OR</b>	ECE 131 Programming Fundamentals (3) **does not apply nor is a requirement for the listed UNM Engineering B.S. program. It is listed here only to demonstrate equivalency  <b>OR</b>
CSCI 1153 Programming in Matlab (4)	CS 151L Computer Programming Fundamentals for Non-Majors (3) **does not apply nor is a requirement for the listed UNM Engineering B.S. program. It is listed here only to demonstrate equivalency

- Engineering A.S. requirements and listed UNM Engineering B.S. program requirements
- UNM courses listed within the groups are courses typically completed in years One and Two for the represented UNM Engineering majors.
- Note: ENGR 2088 is not an instructor-led content based course at CNM. For this worksheet it is listed as an Elective and is used as a CNM course number code that captures Engineering transfer courses from UNM.

<b>Engineering A.S.</b>	<b>Chemical Engineering B.S. Requirements:</b>
<b>Elective Options 12-13 credit hours required:</b>	
CHEM 1810 General Chemistry II (3)	CHEM 122 General Chemistry II (3)
CHEM 1892 General Chemistry II with Lab (1)	CHEM 124L General Chemistry II Lab (1)
<sup>1</sup> CHEM 2710 Organic Chemistry I (3)	<sup>1</sup> CHEM 301 Organic Chemistry I (3)
<sup>1</sup> CHEM 2792 Organic Chemistry I (1)	<sup>1</sup> CHEM 303 Organic Chemistry I Lab (3)
	<b>Following courses are completed at UNM and transferred to CNM and fulfill ENGR 2088 Engineering Elective credit:</b>
ENGR 2088 Engineering Elective	CBE 251 Chemical Process Calculations I (3)
ENGR 2088 Engineering Elective	CBE 253 Chemical Process Calculations II (3)
ENGR 2088 Engineering Elective	CBE 302 Chemical Engineering Thermodynamics (4)

### Notes

<sup>1</sup> CNM Courses (MATH 2910, SOC 2235 for example) with upper division UNM counterparts/equivalents (course with 300+ course number) will transfer and satisfy UNM course requirement, but do not fulfill UNM course upper division requirement.

<sup>2</sup>IT 1010 (UNM CS 150L) is not a requirement for any of the listed UNM Engineering B.S. programs. Students have the option of fulfilling the IT 1010 CNM requirement by utilizing the IC3 challenge exam or CLEP exam. For more information, please contact a STEM UP advisor.

<sup>3</sup>To receive equivalent credit for UNM's CE 160L, student must complete both CNM's CM 1205 and CAD 1001.

## Chemical Engineering Curriculum Facts CNM to UNM

**\*\*\*\*\*IMPORTANT: To assure accuracy based on individual curriculum, student must meet with advisors at CNM and UNM\*\*\*\*\***

- The course ENGR 2088 is a CNM non-instructor course, and applies as an Engineering Elective that is used when a student takes a course at UNM then transfers the course back to CNM to apply towards the Associates degree.

### Engineering

Students should contact an Advisor to understand UNM Engineering Curriculum Semester Sequencing upon full transfer.

- IT 1010
  - All CNM students are eligible to challenge IT 1010. IT 1010 is not a UNM B.S. requirement, but is a CNM A.S. requirement. UNM does not accept credit hours for the completion of IT 1010 challenge exam.
- CHEM 2710/2792 Organic Chemistry I
  - CHEM 2710/2792 Organic Chemistry I at CNM will satisfy UNM CHEM 301/303 Organic Chemistry I requirement, but the course will maintain lower level status and will not fulfill UNM upper division degree requirements.
- MATH 2910 Applied Ordinary Differential Equations
  - MATH 2910 Applied Ordinary Differential Equations at CNM will satisfy UNM's MATH 316 Applied Ordinary Differential Equations, but will maintain lower level status and will not fulfill upper division degree requirements.
- Basic Science Courses with Lab (choose 1 course with lab from below)
  - PHYS 2710 = PHYC 262/262L
  - BIO 1010/1092 = BIO BIOL 110/112L;
  - BIO 1410/1492 = BIOL 123/124L;
  - BIO 1510/1592 = BIOL201

### Chemical Engineering Departmental Requirements:

Must earn a GPA of 2.5 or better. A grade of C- or less is not accepted for any math class, nor for any course used to fulfill the core curriculum requirements.

- MATH 162 (4) = MATH 1710 (4)
- MATH 163 (4) = MATH 1715 (4)
- CHEM 121/123L (4) = CHEM 1710/1792 (4)
- CHEM 122/124L (4) = CHEM 1810/1892 (4)
- PHYS 160 (3) = PHYC 1710 (4)
- (UNM)CHNE 101(1) = ENGR 2088 (1)
- CS 151L (3) = CSCI 1153 (4)

**For further questions regarding Transfer to UNM in the STEM fields contact:**

**Nina Gardea, MCRP**

CNM, STEM UP Achievement Coach  
505-277-0320  
ngardea@cnm.edu

**Juan Marquez**

CNM, STEM UP Academic Advisor  
505-224-4000 ext. 51912  
jmarquez72@cnm.edu

**Doug Atler**

CNM, STEM UP Academic Advisor  
505-224-4000 ext.51382  
datler1@cnm.edu

**Melody Walker**

CNM, Tutor Coordinator  
505-224-4000 ext. 51918  
mwalker23@cnm.edu

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