UNM | Office of Career Services

University Advisement & Enrichment Center, Room 220
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www.career.unm.edu

WHAT CAN I DO WITH A MAJOR IN … CHEMICAL ENGINEERING

OCCUPATIONAL SUMMARY:

The UNM Department of Chemical and Nuclear Engineering (2013) describe the field of chemical engineering: "Chemical engineering has a rich history of contributions to the nation's technology base for production of chemicals and materials for consumer products and basic commodities. Chemical engineers have long played key roles in a diverse set of industries that include petroleum, food, pharmaceuticals, artificial fibers, petrochemicals, plastics and ceramics, to name a few. In these areas, chemical engineers design and develop the processes for large-scale manufacturing that result in affordable products that are essential to our way of life. Chemical engineers also work in the areas of environmental protection and remediation, process safety, and hazardous waste management."

EMPLOYMENT REQUIRMENTS:

The Bureau of Labor Statistics (2012) explains that a bachelor's degree in chemical engineering is the minimum formal education required to work as a chemical engineer. BLS further explains that many employers value practical experience, making it important for chemical engineering students to participate in internships and Co-ops while completing their degree. BLS highlights that a Professional Engineering (PE) Licensure is encouraged even though PE Licensure is not as common for chemical engineers as it is for other engineering fields. BLS also notes that a graduate degree (M.S., M.E., and/or Ph.D.) is required to hold positions in management, research, or academia. Consult O*Net for more information on the specific KSAs (Knowledge, Skill, Ability) that are required for this career.

THE UNIVERSITY OF NEW MEXICO:

The UNM Department of Chemical and Nuclear Engineering offers a Bachelor of Science (B.S.) in Chemical Engineering, a Master of Science (M.S.) in Chemical Engineering, and a Doctor of Philosophy (Ph.D.) in Engineering with a Chemical Engineering concentration. Check the department website for more information on degree programs and research areas. The College of Engineering also offers various other degree tracks such as the Master of Engineering and the 2 + 3 B.S. & Master of Business Administration program. More information on these programs can be found in the University Catalog by selecting "Colleges" on the right and selecting "School of Engineering".

INDUSTRIES & TARGET EMPLOYERS:

A variety of employers specifically recruit UNM students and alumni. Consult UNM's Lobo Career Connection for a complete list of employers and current job postings. Speak with a Career Development Facilitator at the UNM Office of Career Services for help with identifying employers or additional resources for your occupation of choice.

Business/Industry
Agricultural, plastics, industrial, petroleum, pharmaceutical, cosmetic, food processing, environmental, consulting, development, project management, electronics, fuels and energy, materials, manufacturing plants, sales

Government
Federal, national and local government agencies, Department of Energy, Environmental Protection Agency, research, national laboratories

Education
University/college instruction or administration, researcher

SUGGESTED STRATEGIES

- Gain related chemical engineering or general engineering professional experience through involvement in internships, student employment, Co-ops, research, and/or volunteer opportunities.
- Shadow professionals in the field to gain a better understanding of the occupation and to build relationships with professional mentors.
- Build your network and get involved on campus through student organizations and campus events. The School of Engineering website outlines student organizations that are affiliated with the School of Engineering as well as the Chemical Engineering department. You can find more organizations and events at the Student Activities Center website.

- Attend career-related campus events such as career fairs, company information sessions, and or career workshops.
- Students who are interested in graduate school should maintain a high undergraduate GPA, develop relationships with faculty, and participate in undergraduate research. You can sign up for UNM's Research Opportunity Database at http://research-match.unm.edu/. Some other research opportunities include
  - Ronald E. McNair Scholars Program
  - Research Opportunity Program (ROP)
  - Minority Access to Research Careers Program (MARC)
  - Initiative for Maximizing Student Development (IMSD)
  - Undergraduate Pipeline Network
  - UNM Engineering Research Centers
  - Research at the University of New Mexico
- Speak with mentors and faculty about career opportunities.
- Job leads can be found on your department's website, list-serv, newsletters, and social media sites.
- Familiarize yourself with the federal job application process.

STATE & NATIONAL WAGES:

Adapted from CareerOneStop (2013)

CHEMICAL ENGINEER

Location	2012				
	10%	25%	Median	75%	90%
United States	$58,800	$73,800	$94,300	$119,100	$154,800
New Mexico	$69,800	$81,800	$95,900	$118,600	$149,600

INFORMATIONAL WEBSITES:

American Chemical Society	www.acs.org
American Institute of Chemical Engineers	www.aiche.org
American Society for Engineering Education	www.asee.org
Association of Energy Engineers	www.aeecenter.org
Biomedical Engineering Society	bmes.org/
Electrochemical Society	www.electrochem.org
National Council of Examiners for Engineering and Surveying	ncees.org
National Society of Professional Engineers	www.nspe.org
North American Catalysis Society	nacatsoc.org/
National Organization for the Professional Advancement of Black Chemists and Chemical Engineers	www.nobcche.org

http://onetonline.org

www.bls.gov

REFERENCES

Bureau of Labor Statistics, U.S. Department of Labor, (2012, April 10). *Occupational Outlook Handbook, Chemical Engineers*. Retrieved from http://www.bls.gov/ooh/architecture-and-engineering/chemical-engineers.htm

State of Minnesota, U. S. Department of Labor, Employment and Training Administration (2013). *CareerOneStop, Occupation Profile, Chemical Engineer*. Retrieved from www.careerinfonet.org

University of New Mexico, Department of Chemical & Nuclear Engineering (2013). *Department of Chemical & Nuclear Engineering*. Retrieved from http://www-chne.unm.edu/