

# Workforce Readiness – A Research University Perspective

Prepared by:

Thomas W. Engler, Ph.D., P.E., Dean of Engineering  
 And Elaine DeBrine-Howell, Associate Dean of Student Success  
 LESC meeting, July 14, 2014

## About New Mexico Tech



- Founded in 1889, as New Mexico School of Mines
- Name changed in 1951, to New Mexico Institute of Mining and Technology, aka New Mexico Tech
- Focused only in the sciences and engineering
- Hispanic Serving Institution

	Total institution	Engineering (ALL)	Petroleum Engineering
Enrollment – UG	1563	75% in engineering	192
Enrollment – GR	450	50% of MS, 35% of PhD	28
Male-to-female ratio	2:1	4:1	5:1
Student-to-faculty ratio	13 to 1	25 to 1	44 to 1
B.S. degrees conferred in AY 13-14	231	166	29

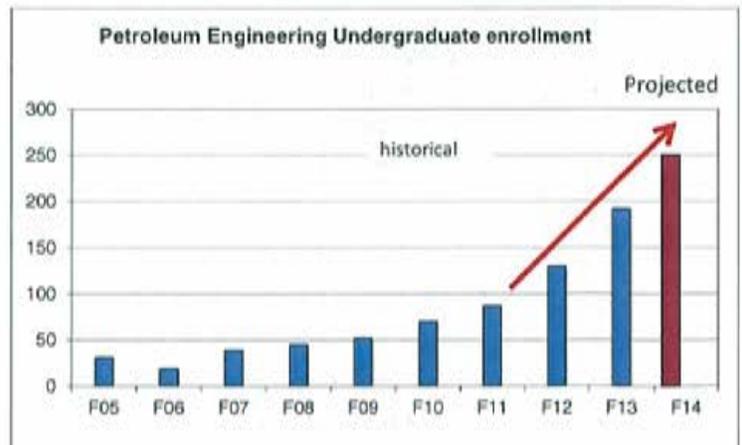
## About Engineering

Discipline	B.S. (ABET)	M.S.	Ph.D.	B.S. degrees conferred in AY 13-14
Civil Engineering	Y			16
Chemical Engineering*	Y			23
Computer Science & Eng	Y	Y	Y	15
Electrical Engineering	Y	Y		17
Environmental Engineering *	Y	Y		5
Materials Engineering*	Y	Y	Y	12
Mineral Engineering	Y	Y		4
Mechanical Engineering*	Y	Y		45
Petroleum Engineering*	Y	Y	Y	29

\* hired in oil and gas industry

## About Petroleum Engineering

- Undergraduate enrollment is exploding
- Conferred 29 B.S. degrees in May, largest graduating class in decades
- ABET accredited B.S. program



# Workforce Readiness Pathways to Success

## Outreach

- NMOGA/MESA Oil & Gas Career and Education Fair
- SPE Energy for Me Program
- Oil & Gas Day at the Capitol



## College Partnerships

- SJC, CNM, NMJC, NMMI...
  - Provide advising and guidance to students to improve the transfer process.
  - NM Engineering Articulation Committee

## Industry – academia partnerships

- Industry advisory board
  - Provide guidance on skills desired and how to obtain
- Industry-Sponsored capstone design projects
  - Real problems, team driven, significant communication component
  - Interdisciplinary projects
- Internships/COOPS
  - Real world experience prior to permanent employment

Skill set cited by employers as important:

- Basic knowledge and skills, e.g. math, science, etc
- +
- Professionalism/Work Ethic
- Oral and Written Communications
- Teamwork/Collaboration and
- Critical Thinking/Problem Solving

## Results

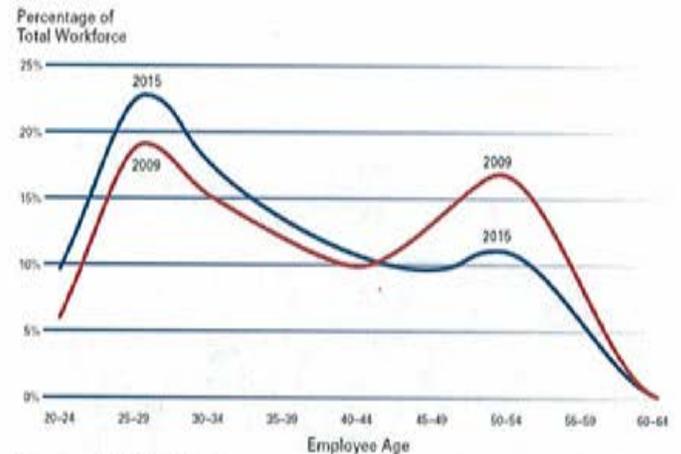
- 90% of the U.S. students who graduated in May 2014 at NMT in petroleum engineering have fulltime employment
- 60% of the fulltime positions are in New Mexico
- Over half of the fulltime hires had summer internship or COOP experience

## Challenges

- Supply of graduates vs demand for young engineers
- Maintain quality education

## Opportunities

- Aging workforce within the industry



Source: Schlumberger

- Industry activity is very high, particularly in SENM, and with improving conditions in San Juan Basin; subsequently, years of well inventory exists.

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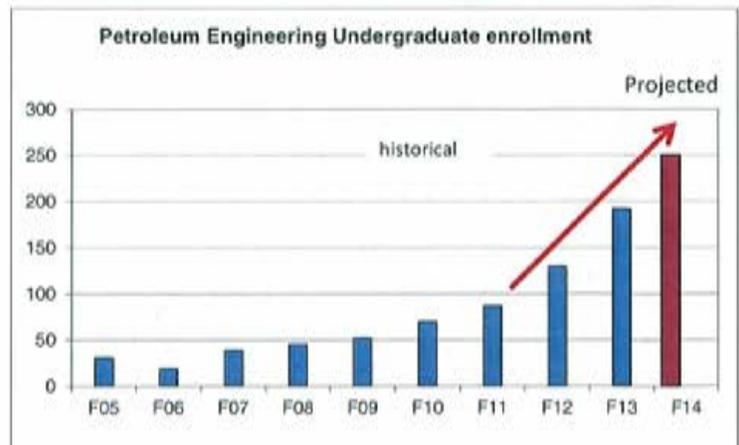
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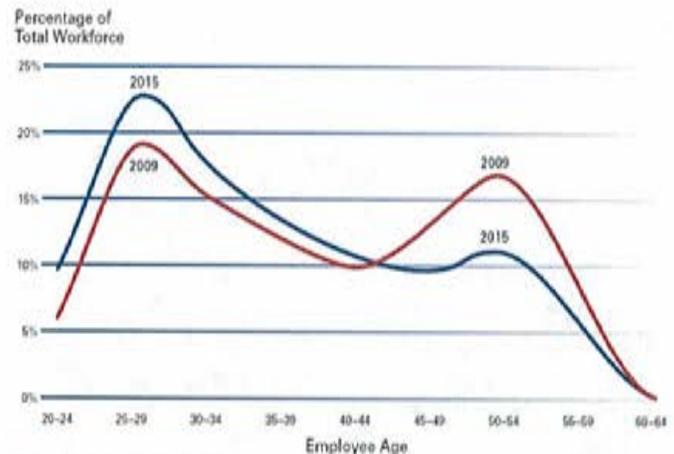
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