
















Hot Fields, Cold Cash

This month's Databytes draws inspiration from a recent debate on whether engineering schools are producing enough graduates for current job openings.¹ We asked the question: Will engineering disciplines with higher median pay and greater predicted job growth show greater undergraduate enrollment growth than disciplines with lower median pay and lower predicted job growth? To answer this question, we looked at part-time and full-time engineering undergraduate students enrolled in 2006 and 2011 for selected engineering disciplines,² and matched them with Department of Labor statistics on predicted job growth and median pay for engineering disciplines from 2010 to 2020.³

DISCIPLINE	Part-time Student Increase	Full-time Student Increase	Part-time Student Increase (Rank and Percent)	Full-time Student Increase (Rank and Percent)	Job Outlook 2010 to 2020 ³	Job Growth (Rank)	Median Pay 2010 ³ (Per Year)	Median Pay (Rank)
 PETROLEUM ENGINEERING	222	2,288	(1) 267.47%	(2) 81.31%	17% (About as fast as average)	High	\$114,080	High
 NUCLEAR ENGINEERING	24	862	(8) 32.00%	(5) 51.71%	10% (About as fast as average)	High	\$99,920	High
 COMPUTER ENGINEERING ⁴	1,297	12,005	(12) 20.32%	(10) 24.97%	9% (Slower than average)	Middle	\$98,810	High
 Biomedical Engineering	188	8,043	(6) 39.50%	(4) 52.36%	62% (Much faster than average)	High	\$81,540	Middle
 Environmental Engineering	235	2,518	(2) 183.59%	(1) 110.93%	22% (Faster than average)	High	\$78,740	Middle
 Civil Engineering	1,124	8,674	(11) 29.70%	(11) 19.54%	19% (About as fast as average)	High	\$77,560	Low
 Mining Engineering	26	348	(4) 70.27%	(6) 45.55%	10% (About as fast as average)	High	\$82,870	Middle
 Biological Engineering & Agricultural Engineering	83	1,253	(3) 122.06%	(7) 41.24%	9% (Slower than average)	Middle	\$71,090	Low
 Metallurgical & Materials Engineering	-3	1,420	(13) -1.62%	(8) 36.85%	9% (Slower than average)	Middle	\$83,120	Middle
 Mechanical Engineering	2,040	20,669	(9) 30.01%	(9) 25.74%	9% (Slower than average)	Middle	\$78,160	Low
 Architectural Engineering	-26	-605	(15) -13.90%	(15) -15.18%	9% (Slower than average)	Middle	\$71,090	Low
 Chemical Engineering	546	12,689	(5) 42.89%	(3) 53.29%	6% (Slower than average)	Low	\$90,300	High
 Electrical Engineering ⁵	-633	2,751	(14) -9.09%	(14) 5.07%	6% (Slower than average)	Low	\$87,180	Middle
 Industrial/ Manufacturing/ Systems Engineering	314	2,379	(10) 29.85%	(13) 18.33%	6% (Slower than average)	Low	\$76,100	Low
 Aerospace Engineering	227	2,974	(7) 34.82%	(12) 18.66%	5% (Slower than average)	Low	\$97,480	High

1. See The Jobs Council's 2011 End of Year Report: Roadmap to Renewal. (http://files.jobs-council.com/files/2012/01/Jobscouncil_2011YearEndReport1.pdf) and Leonard Lynn and Hal Salzman's, Is The President Right When He Says the United States Needs 10,000 Engineers A Year? Why Not Let The Market Decide? 2011. *Manufacturing and Technology News* <http://www.manufacturingnews.com/news/11/1031/engineers.html>
 2. The following ASEE engineering disciplines did not have analogous Department of Labor statistics and were excluded: Engineering (General), Engineering Management, Engineering Science and Engineering Physics, Other Engineering Disciplines, Civil/ Environmental.
 3. Data available online from the Bureau of Labor Statistics: <http://www.bls.gov/oo/Architecture-and-Engineering/home.htm>
 4. The ASEE engineering disciplines "Computer Engineering" and "Computer Science (inside engineering)" were combined and re-labeled "Computer Engineering" to align with the Department of Labor statistics category "Computer Hardware Engineers."
 5. The ASEE engineering disciplines of "Electrical Engineering" and "Electrical/Computer Engineering" were combined and re-labeled to align with the Department of Labor statistics category "Electrical and Electronics Engineering."