

Why is Engineering Education Important to the Future of the Maine Economy?

Maine Engineering
Workforce Summit
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Two Answers

- One is quick and obvious.
- Another is far more complicated and not at all obvious.
- I'd like to discuss both with you this morning.

First Answer

- **Good jobs with high pay** (Census Occupational Survey)

	Maine	U.S. Avg.	Relative Wage by Occupation
Average Annual Pay, 2015			
Engineering Occupations	\$72,300	\$82,980	87%
All Occupations	\$43,260	\$48,320	90%
Relative Wage by Region	167%	172%	

- **Projected annual job openings in Maine,**
Architectural & Engineering Occupations 2014-24 (MDOL)

total	for replacement	for growth
249	231	18

Some Implications

Measure	ME Value	ME rank	% u.s. avg
engineer relat wage, local	167%	30	97%
engineer % all occup	1.6%	32	97%
real GDP/ eng emp	\$5.5	38	85%
engineer relat wage, natl	87%	39	87%
real GDP/ all emp	\$0.086	46	81%
% change real GDP	-0.6%	48	n.a.

Humanity's Coming Inflection Point

The human species now stands at the threshold of “volitional evolution:”

- creation of artificial organisms,
- gene substitution, and
- surgically precise modification of the genome.

These possibilities threaten biodiversity and the human species; the only solution is a radical integration of science and the humanities.

E.O. Wilson *The Meaning of Human Existence*, W.W. Norton & Company, 2014, p. 58.

The Second Answer

“What counts for long-term survival is intelligent self-understanding, based upon a greater independence of thought than that tolerated today even in our most advanced democratic societies.”

E.O. Wilson, p. 26.

The Second Answer

the Latin *ingeniator*, one who makes, produces, generates, begets; one who possesses ingenuity.

Maine, indeed the planet, needs people who meet this definition. An engineer is someone who embraces rather than retreats from complexity, someone who combines the highest respect for the harsh, intractable laws of nature—the reality of the “not me”—with a deep commitment to finding solutions to human problems.