Week 4

- 1. Engineers' Salary Survey
- 2. Design project (see Design Project Schedule on web)
- 3. Professionalism and Ethics (chapter 1.10 in book)

Engineering Salary Survey

Source: http://www.abbottlanger.com/asmesumm.html?pn02

Engineering Salary Survey

The median annual income reported in a recent survey (2004) of the compensation of mechanical engineers was \$83,236, with the middle 50% falling between \$62,000 and \$100,000, according to Dr. Steven Langer, President of Abbott, Langer & Associates, Inc., Crete, IL.

Engineering Salary Survey, cont'd

The composite highest-income practitioner in this field (salary plus cash bonus and/or cash profit sharing) is the Research Vice President/Director with a median income of \$135,000. Far toward the other end of the income spectrum, Junior Engineers have a median annual income of \$50,000.

Engineering Salary Survey, cont'd

The median total cash compensation	on of some
ncluded in the 2002 survey report are:	
Presidents "B"	\$130,500
Engr. Directors/Vice Presidents	\$110,000
Professors	\$106,700
Principal Consultants	\$100,000
Environmental Managers	\$96,990
Senior Engineers	\$79,800
Sales Representatives	\$74,000

Engineering Salary Survey, cont'd

Compensation varies considerably. Median incomes are highest for independent consultants (\$99,500), and in financial organizations (\$118,000), textile mill product manufacturing (\$96,000), and petroleum/coal/natural gas extraction & refining firms (\$95,000);

Engineering Salary Survey, cont'd

Median incomes are lowest in firms manufacturing home appliances (\$63,000) and circuit boards (\$63,500), printing firms (\$63,800), and state government (\$64,000).

Engineering Salary Survey, cont'd

When level of education is taken into account, mechanical engineers with a **doctoral degree** earn a median annual income of \$93,750, 32% higher than those with a bachelor's degree (\$70,950).

Mechanical engineers with **under one year of experience** have a median income of \$49,900, only about one-half that of the 25-plus-year veteran (\$100,000).

Chapter 1.9 Engineering Education

Some personal observations:

Observe market trends continuously. Internet job sites are an excellent resource.
The highest demand is typically in new technologies (often the most interesting, but also the most challenging)

About Week 3 Lab Assignment: Begin Literature Search

Your Sources:

- Library
- Web
- US Patent office

US Patent example:

United States Patent 6,491,566 Peters, et al. December 10, 2002

'Toy Robots' Legally known as: "Sets of toy robots adapted to act in concert, software and methods of playing with the same "













Lab Assignment: Begin Literature Search

Your Sources:

• Library: Visit the UNLV Library. The library has an on-line catalog. See: http://www.library.unlv.edu/

- Web
- US Patent office

Lab Assignment: Begin Literature Search

Your Sources:

- Library
- Web

Use search engines such as Google. Also use Image search options

• US Patent office

A final remark:

Motivation: Study patents and literature for your own benefit. You will come up with new ideas. Knowledge will make you an expert, and will let you enjoy the project a lot more.





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What is a 'Professional Engineer (PE)?

By acquiring a license from its State Board, a Professional Engineer meets a set of minimal requirements for practicing the engineering profession in his/her field. What is a 'Professional Engineer (PE)?

Obligations: As other licensed professionals, the PE must protect the 'safety, health, and welfare of the public'

Caution: Your PE stamp of approval makes you legally responsible for the safety of the design bearing your signature. As you shall see, this is a significant responsibility.



