Engineering and Politics

- It's not obvious that engineering has anything to do with politics and government, but I am reminded of a story. A lawyer, a physician, an engineer, and a politician were arguing about whose profession was the oldest. The lawyer insisted that law was the oldest: "Cain killed Abel, and there must have been a trial, so law is the oldest profession." "No, no," replied the physician. "God created Eve from Adam's rib, and removing the rib required surgery. So medicine is the oldest profession." The engineer demurred: "In just seven days, God created the heavens and the earth out of chaos. That was a monumental engineering task, so engineering is the oldest profession." The politician burst in: "But who created the chaos?"

How do Politics Affect Engineering?

- The political process affects distribution of resources
- The **Budget of the United States Government** is a federal document that the President submits to Congress
  - The President's budget submission outlines funding recommendations
- Congressional decisions are governed by rules and legislation regarding the federal budget process
  - House and Senate Budget committees each develop budget resolutions, which provide spending limits for the House and Senate Appropriations Committees' subcommittees, which then approve individual appropriations bills to allocate funding to various federal programs
- After Congress approves an appropriations bill, it is sent to the President, who may sign it into law, or may veto it
- A vetoed bill is sent back to Congress, which can pass it into law with a two-thirds majority in each chamber.

### 2008 U.S. Federal Spending

<table>
<thead>
<tr>
<th>Category</th>
<th>Spending (Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Discretionary</td>
<td>526</td>
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<tr>
<td>Defense</td>
<td>613</td>
</tr>
<tr>
<td>Medicare &amp; Medicaid</td>
<td>682</td>
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<tr>
<td>Social Security</td>
<td>613</td>
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<tr>
<td>Other Mandatory</td>
<td>330</td>
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<tr>
<td>Interest</td>
<td>249</td>
</tr>
<tr>
<td>Total</td>
<td>$2,879</td>
</tr>
</tbody>
</table>

Source: Congressional Budget Office
The Engineering Lobbyist

- Industries, corporations, individuals, interest groups, and even universities lobby federal, state and local governments in an attempt to procure resources and affect policy.

Examples:
- Semiconductor Industry Association (www.sia-online.org) lobbies the government on behalf of its member companies attempting to impact issues such as trade, taxes, incentives, etc.
- The University of Alabama lobbies state and federal government entities for appropriations requests, other funding issues, etc.

How do Politics Affect Engineering?

- The political process creates policies controlling individual and corporate activities.

Examples:
- Individual and corporate tax structure
- Federal tariffs on goods
- Changes in VISA processes
- International cooperation
  - NAFTA, etc.
- Legislation affecting the procurement and use of “conflict minerals”
  - http://www.raishehopeforcongo.org/casualties_conflict_minerals
How does Engineering Affect Politics?

• Engineers lobby for policies and spending practices that directly impact the profession
  – These engineers may be industry representatives, noted academic leaders, individuals, etc.
• Engineering ability drives future political policies and expenditures
• Examples
  – Research projects offices and laboratories associated with military and other governmental entities
    • DARPA, ARL, AFOSR, AFRL, NWL, ONR, ORNL, NREL, NSF, NOAA, NASA, NIST

Food for further thought

• Electronic Industry Citizenship Coalition (EICC)
  – www.eicc.info
• Global e-Sustainability Initiative
  – www.gesi.org
• Engineer’s Guide to Influencing Public Policy
• Q&A With Washington State Representative Toby Nixon
• Engineers in politics