The Information Technology Workforce*

Caroline Wardle
CISE/EIA
National Science Foundation
cwardle@nsf.gov
July 15, 2002

* This work was done in collaboration with Lawrence Burton, Senior Analyst, Division of Science Resources Statistics, NSF.
What the employment numbers show

Department of Labor predicts:

• 75% increase in high-skill IT jobs between 2000 and 2010 (1.6M new jobs)

• 15% increase in jobs overall

Employed persons with S&E degrees who are in a related S&E occupation, by broad field of S&E degree and gender: 1999

NOTE: No difference by gender is statistically significant in any broad field. Persons with multiple degrees in different S&E fields appear in each of those degree fields in this figure.

SOURCE: National Science Foundation/Division of Science Resources Statistics, SESTAT (Scientists and Engineers Statistical Data System), 1999.
Persons in S&E occupations with a degree in a related S&E educational discipline, by S&E occupation and gender: 1999

NOTE: Differences for men and women in chemical and physical sciences and engineering are statistically significant.

SOURCE: National Science Foundation, Division of Science Resources Statistics, SESTAT (Scientists and Engineers Statistical Data System), 1999.
Persons in S&E occupations with a degree in a related S&E educational discipline, by S&E occupation and selected race/ethnicity: 1999

NOTE: Differences are statistically significant only for engineers.
SOURCE: National Science Foundation, Division of Science Resources Statistics, SESTAT (Scientists and Engineers Statistical Data System), 1999.
## Degree field background of college graduates in IT occupations, by sex and underrepresented minority status: 1999

<table>
<thead>
<tr>
<th>Degree field</th>
<th>Total</th>
<th>Female</th>
<th>Male</th>
<th>Underrep. Minorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>1,293,000</td>
<td>345,800</td>
<td>947,200</td>
<td>99,400</td>
</tr>
</tbody>
</table>

Percent

<table>
<thead>
<tr>
<th>Degree field</th>
<th>Total</th>
<th>Female</th>
<th>Male</th>
<th>Underrep. Minorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer/information science</td>
<td>41%</td>
<td>40%</td>
<td>41%</td>
<td>48%</td>
</tr>
<tr>
<td>Engineering</td>
<td>19%</td>
<td>8%</td>
<td>23%</td>
<td>16%</td>
</tr>
<tr>
<td>Social sciences</td>
<td>15%</td>
<td>19%</td>
<td>13%</td>
<td>14%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>13%</td>
<td>16%</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Business</td>
<td>12%</td>
<td>12%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Physical science</td>
<td>6%</td>
<td>3%</td>
<td>7%</td>
<td>3%</td>
</tr>
<tr>
<td>Life science</td>
<td>4%</td>
<td>5%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>All other</td>
<td>13%</td>
<td>19%</td>
<td>11%</td>
<td>14%</td>
</tr>
</tbody>
</table>

NOTE: Details total more than 100% since some people have multiple degrees in different fields; multiple degrees in the same field are counted once in this table. Underrepresented minorities are Hispanics, Blacks, and Native Americans.

SOURCE: NSF/SRS, SESTAT (Scientists and Engineers Statistical Data System), 1999.
College graduates in IT occupations, by citizenship status

NOTE: Numbers are estimates of computer programmers and computer systems analysts and scientists with at least a bachelor's degree. Annual estimates are averages of 12 months. 
Women as a percent of IT workers with college degrees

Percent

NOTE: IT workers are computer programmers and computer systems analysts and scientists with at least a bachelor's degree. Annual estimates are averages of 12 months.
Issues and Concerns

1. According to the Census, women are becoming less represented in high-skill IT jobs;
2. Many CS departments are at or near peak capacity;
3. How can Department/Colleges of CS best co-exist with Colleges of IT?