



Department of Civil, Structural, & Environmental Engineering

## **2001 Assessment Study: Employer Surveys Raw Data**

*Surveys mailed in June 2001*

*Data Reflects Returned Surveys as of: 8/15/01*

Compiled by Jean Balent

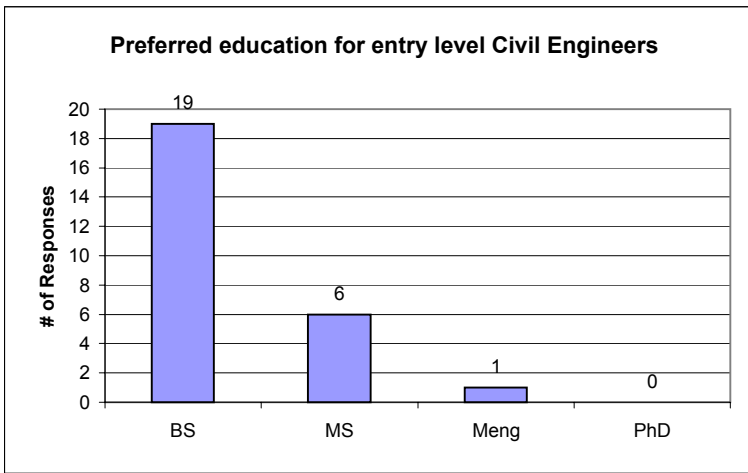
Questions? Contact:

Dr. Alan J. Rabideau  
Director of Undergraduate Studies  
email: [rabideau@eng.buffalo.edu](mailto:rabideau@eng.buffalo.edu)

## Demographics

In total : 25 surveys were returned from CSEE Employers

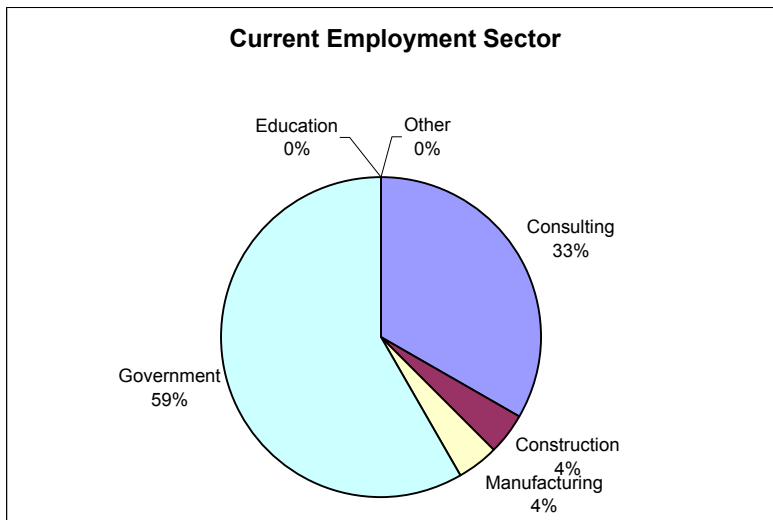
Of these companies, 1275 is the average approximate number of employees in the organization  
 64 is the average approximate number of Civil Engineers in the organization  
 26 is the average approximate number of UB Civil Engineers in the organization  
 12 is the average approximate number of Civil Engineers hired in last 5 years  
 14 is the average approximate number of Civil Engineers expected to hire over next 5 years



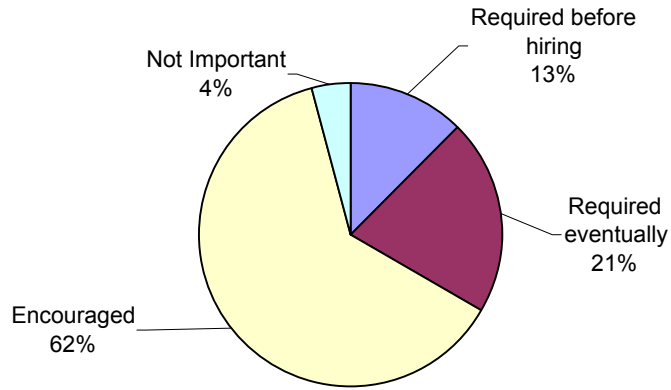
**Typical annual salary for entry-level Civil Engineers**  
 \$ 33,329.61  
**Typical annual salary for Civil Engineers after 5 years**  
 \$ 49,377.36

**Descriptions of primary business activity included:**

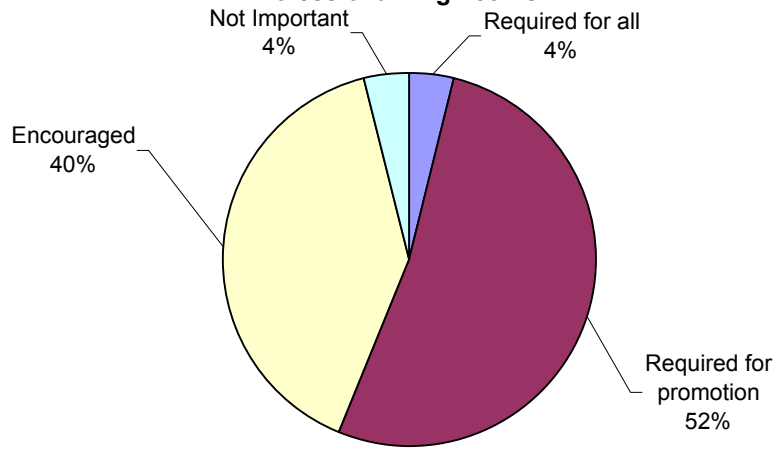
- Transportation
- Environmental Consulting
- MFR of seismic protection devices
- Civil/Env Eng/Construction
- NYS DOT
- Federal Government Public Engineering - Construction
- Public Engineering - Construction
- Remediation
- Environmental Control
- Road/Bridge Construction and Maintenance
- Environmental Regulator
- Design, Construction, & Maintenance of Hwy & Bridge Systems
- Consulting, Geotechnical & Environmental Engineering
- Transportation Planning
- Highway Maintenance & Construction
- Environmental Consulting
- Structure Design/DOT
- Public works
- Environmental
- Environmental Regulatory Agency
- Roads/Bridges
- Civil/Transportation/Surveying
- Geotechnical & Environmental
- Civil Engineering



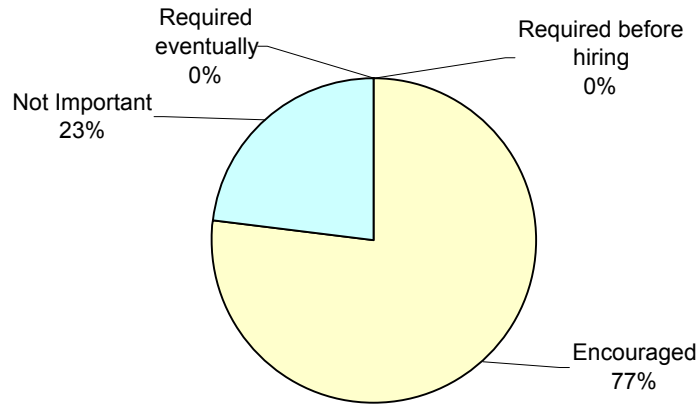
**For entry-level Civil Engineers, completion of Fundamentals of Engineering exam is**



**For Civil Engineers with 5+ years of experience, licensure as Professional Engineer is**

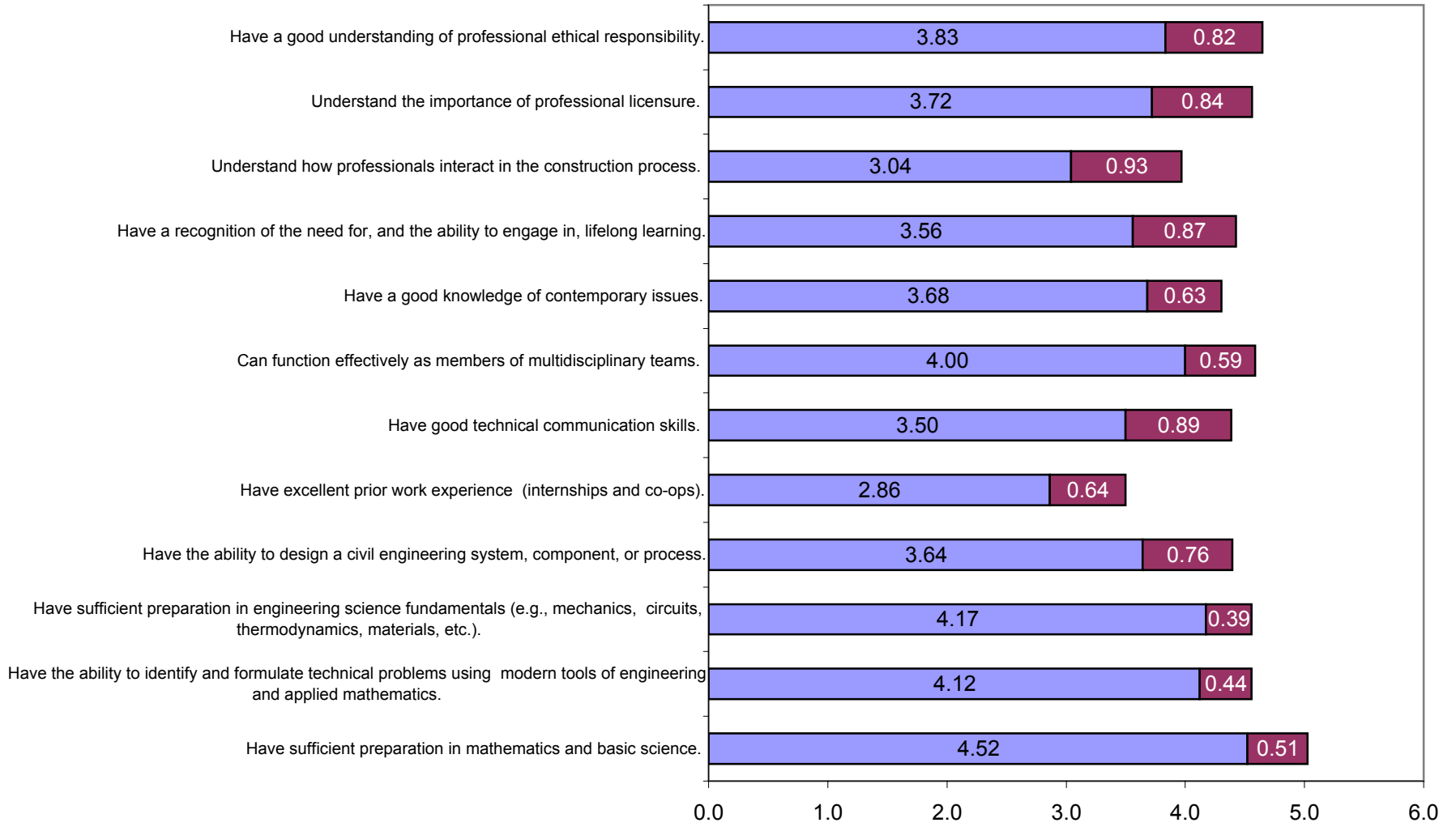


**For Civil Engineers, study at the graduate level is**



CSEE 2001 Employer Survey

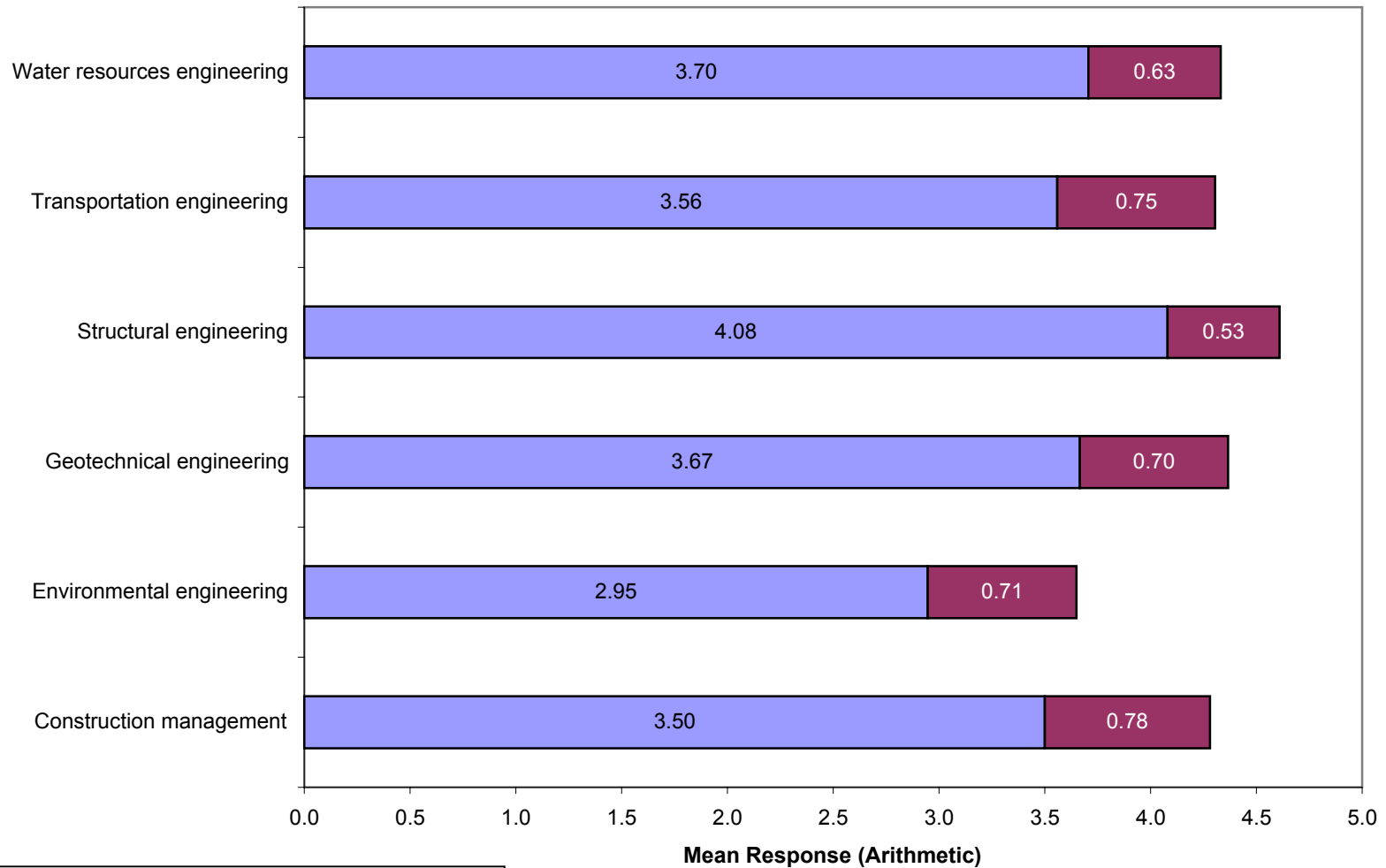
**I feel that UB's Civil Engineering Graduates**



**Note:** Values inside leftmost bars represent mean value, while figures inside right bars represent standard deviation of responses

5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree

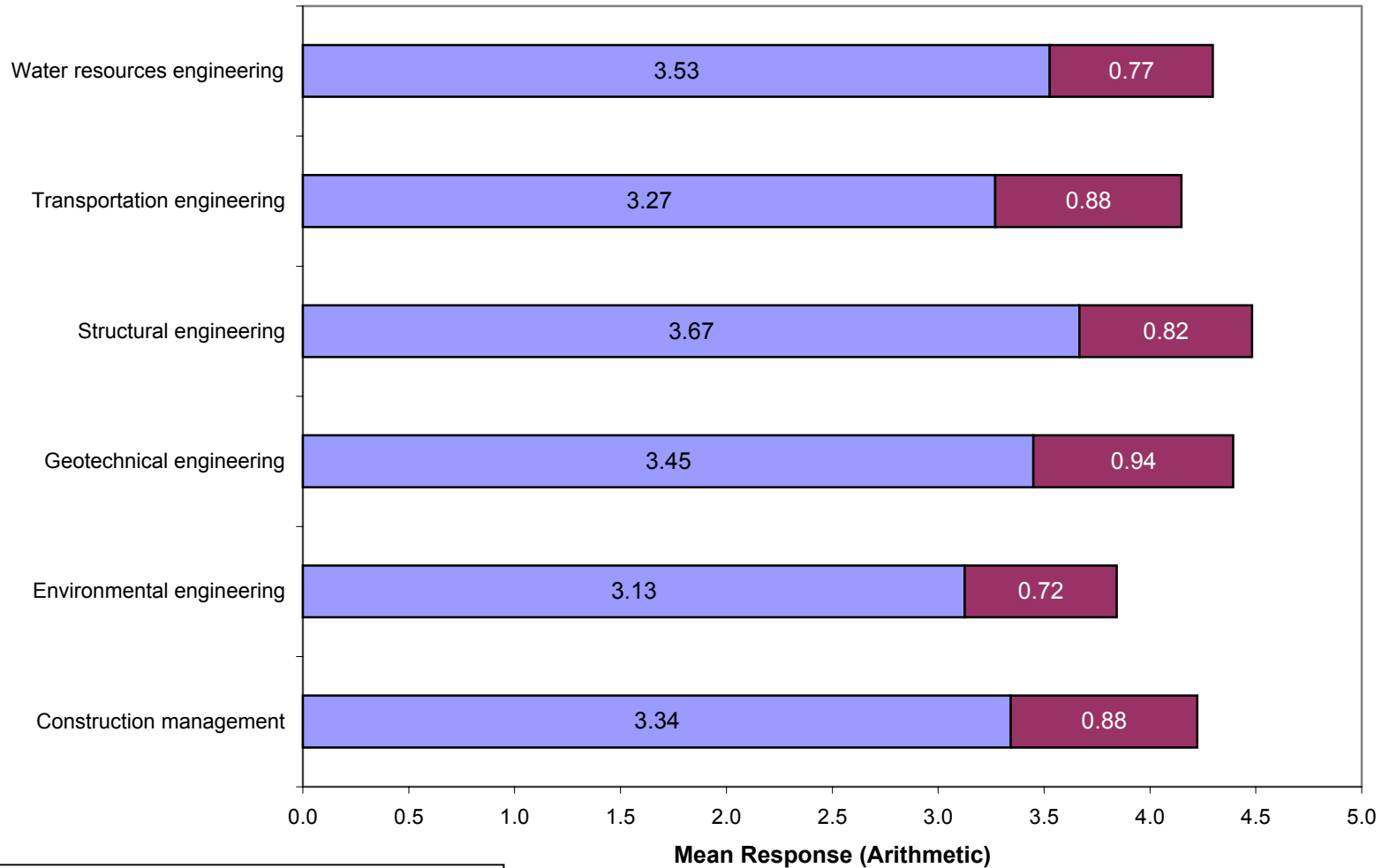
**UB Civil Engineering Graduates have basic proficiency in the following areas of Civil Engineering:**



**Note:** Values inside leftmost bars represent mean value, while figures inside right bars represent standard deviation of responses

5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly Disagree

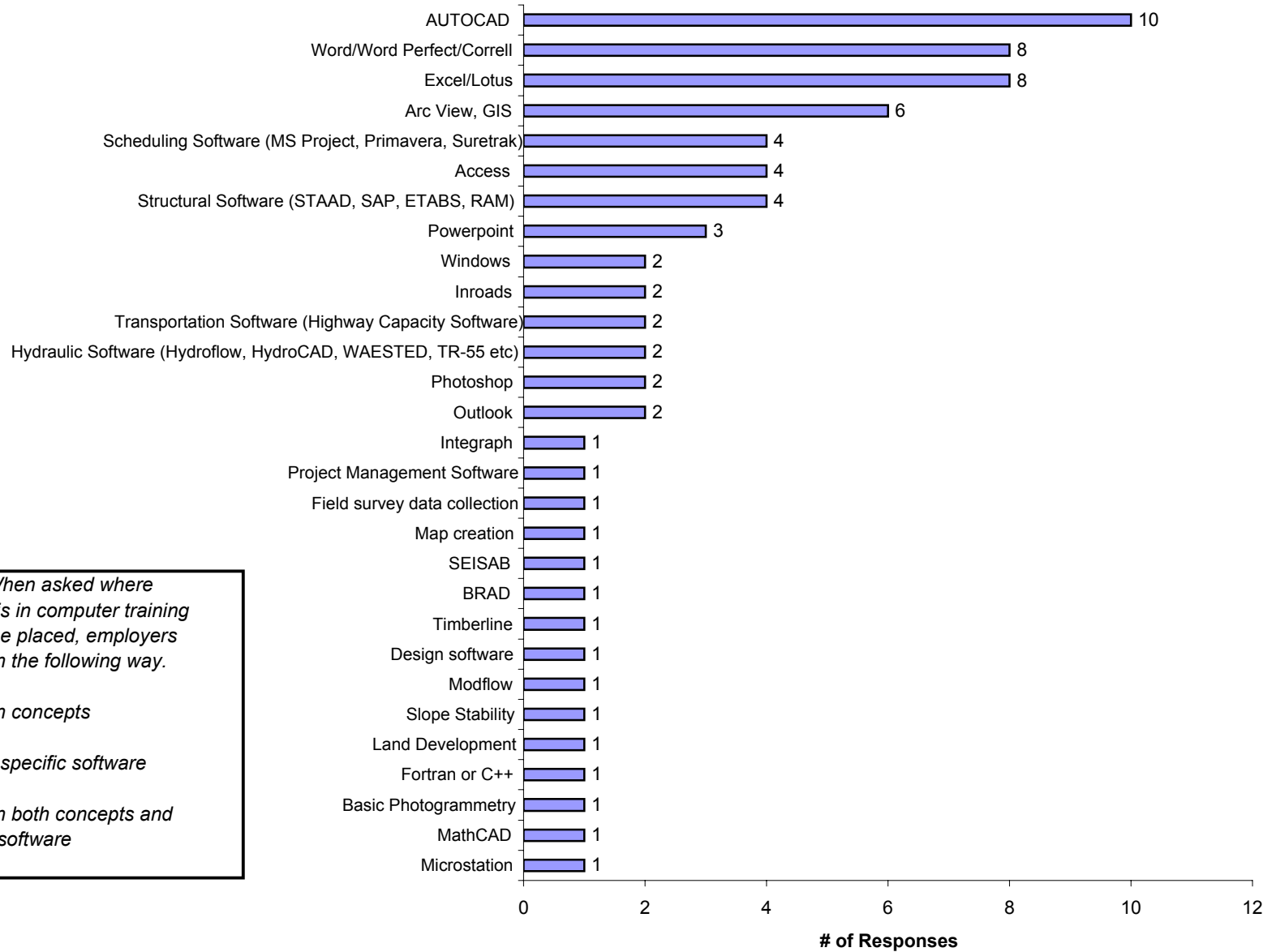
**UB Civil Engineering Graduates have had the ability to design experiments, conduct experiments, and analyze data in the following areas of Civil Engineering:**



**Note:** Values inside leftmost bars represent mean value, while figures inside right bars represent standard deviation of responses

CSEE 2001 Employer Survey

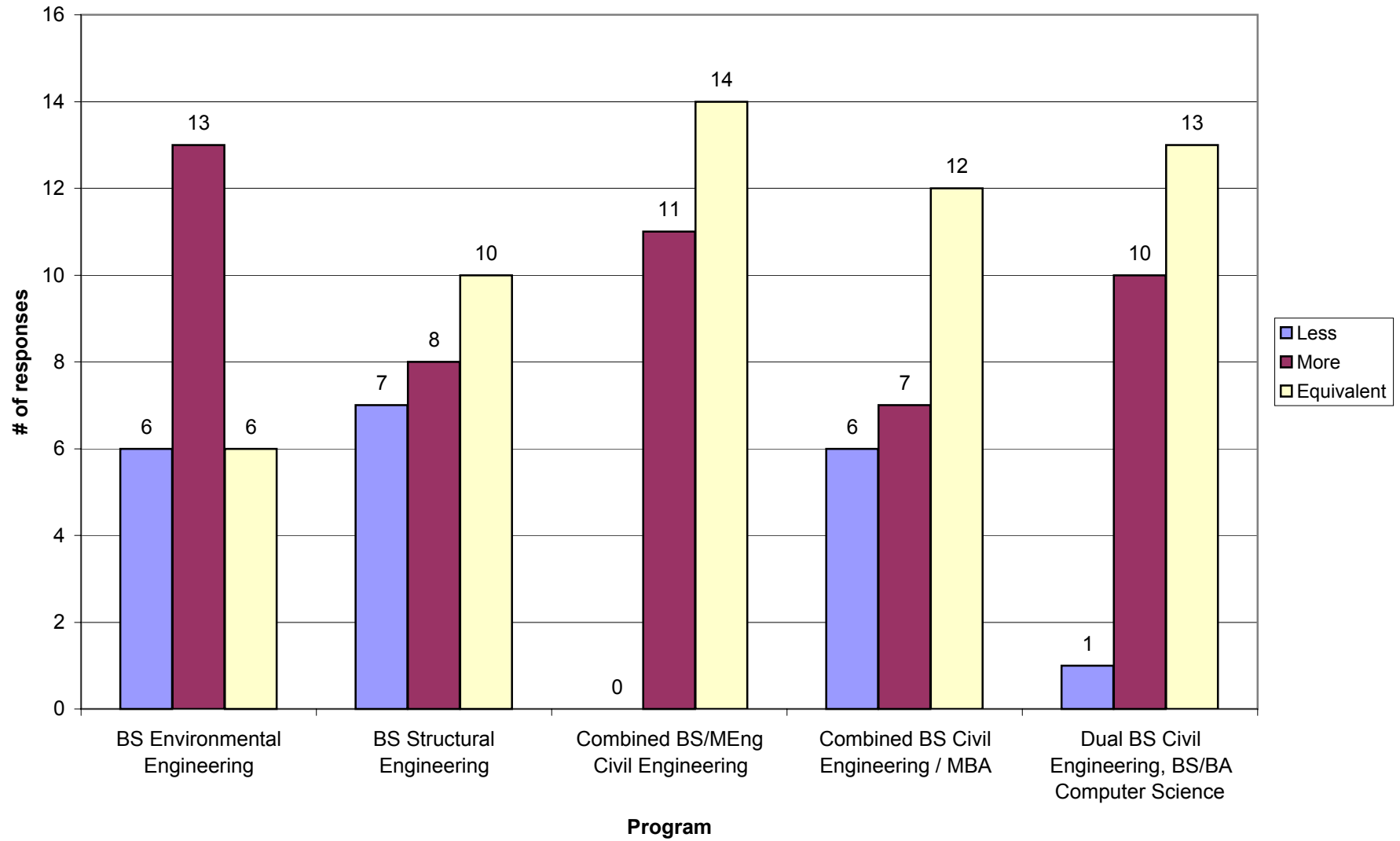
**Specific software that should be covered**



**Note:** When asked where emphasis in computer training should be placed, employers replied in the following way.

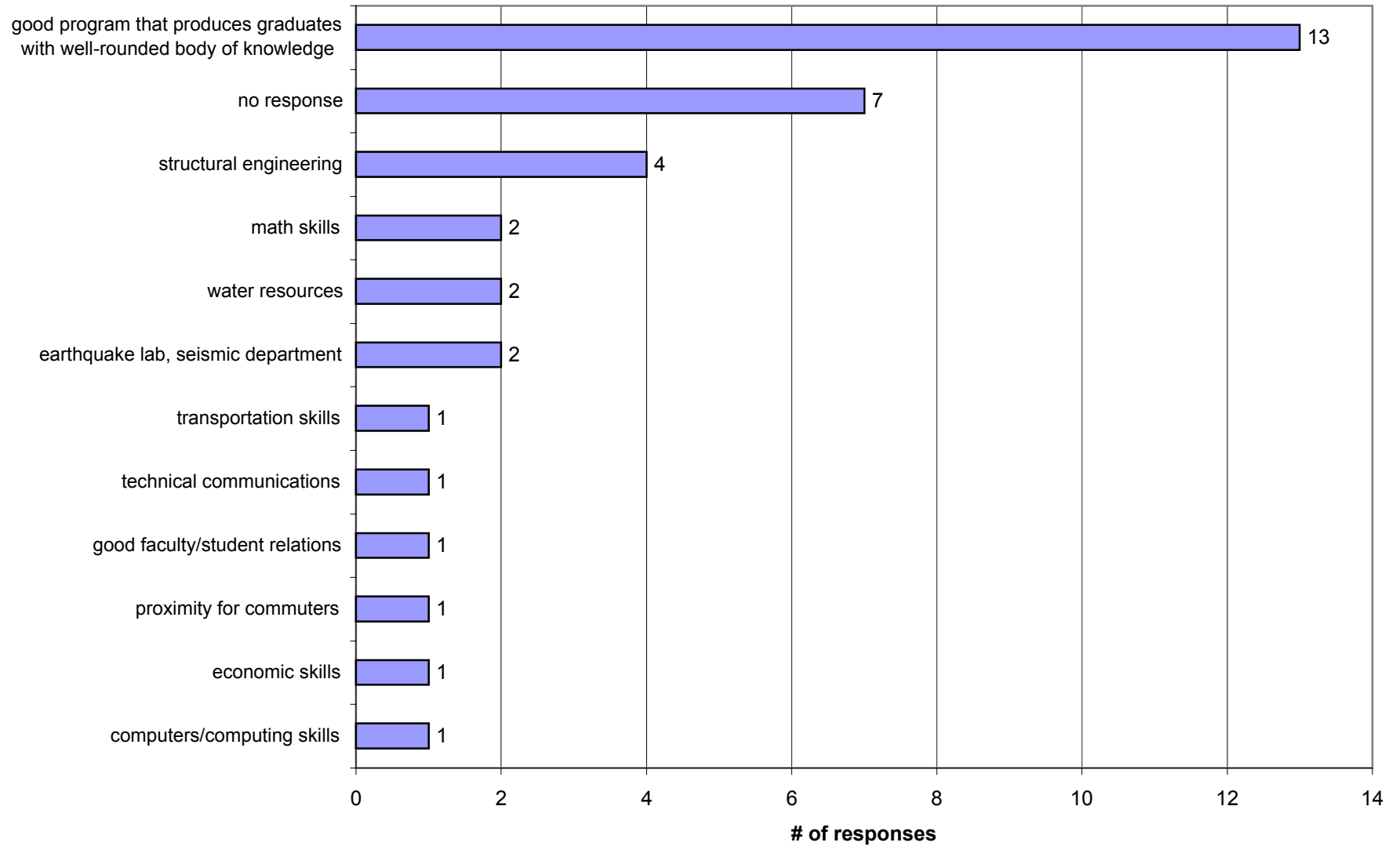
- \* 19% on concepts
- \* 5% on specific software
- \* 76% on both concepts and specific software

### Interest in new academic programs relative to BS Civil Engineering



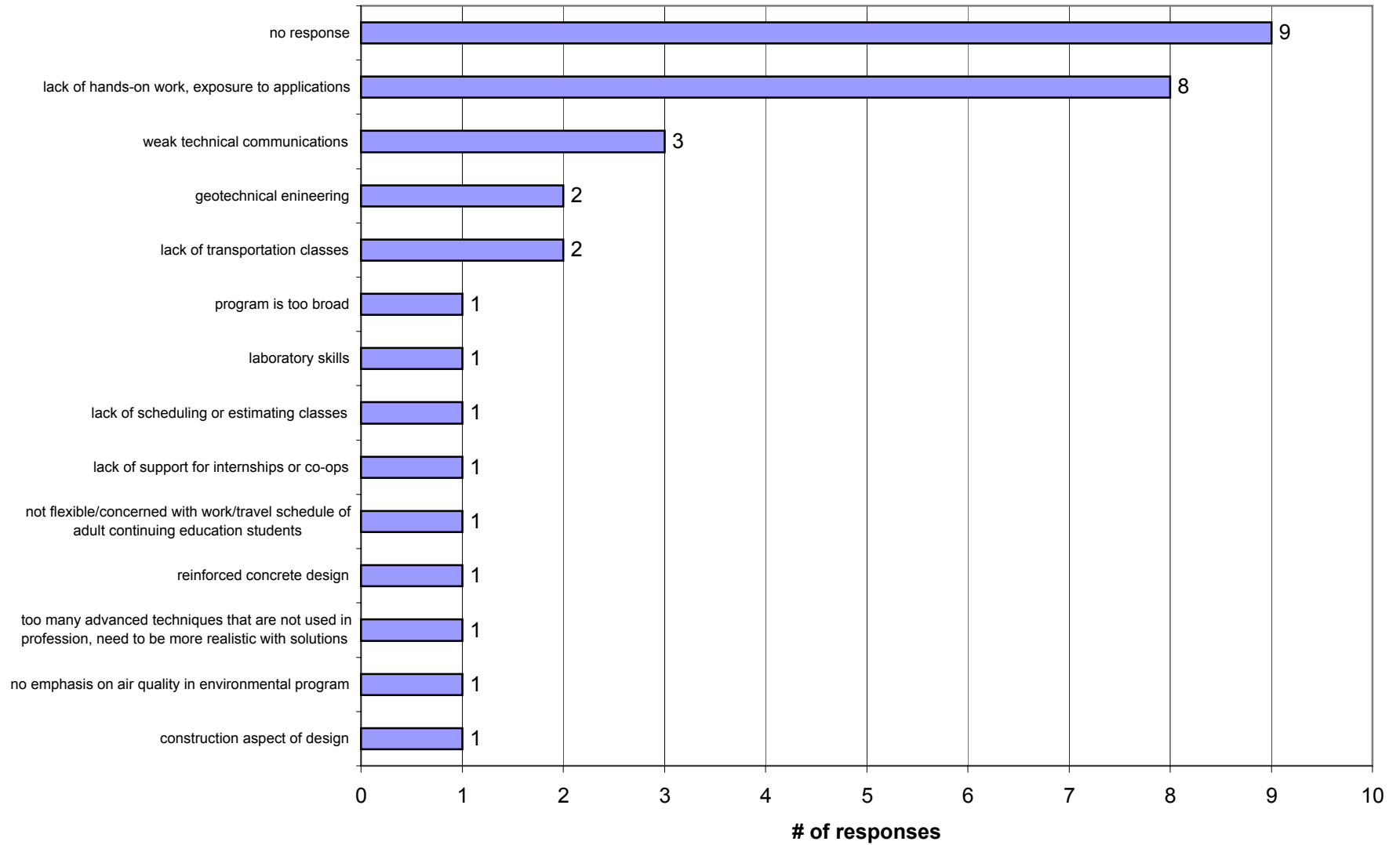
CSEE 2001 Employer Survey

**Employer's perceived strengths of UB's Civil program (written comments)**



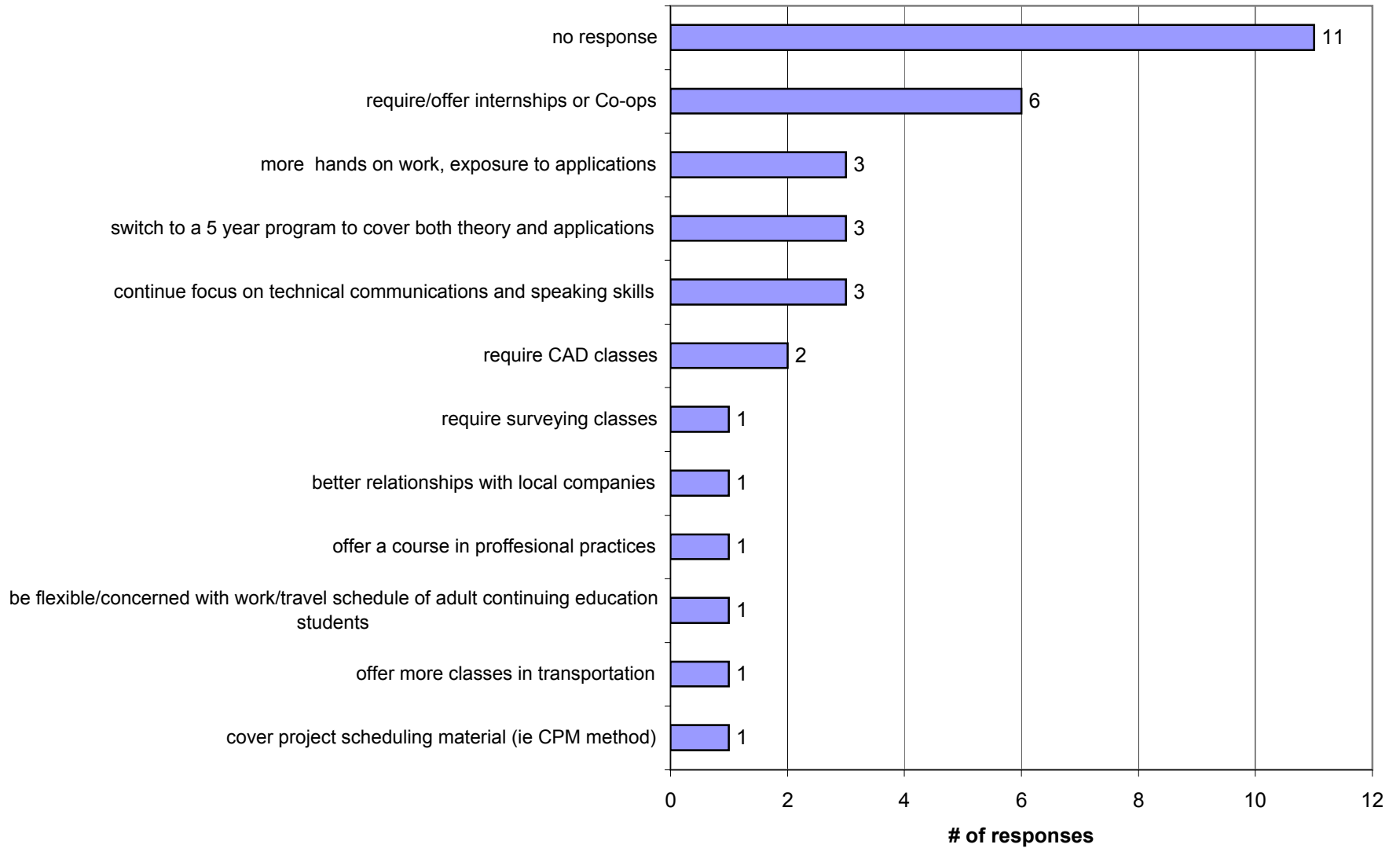
CSEE 2001 Employer Survey

**Employer's perceived weaknesses of UB's Civil program (written comments)**



CSEE 2001 Employer Survey

**Employer's suggested improvements to UB's Civil program (written comments)**



CSEE 2001 Employer Survey

	Importance to Entry Level Civil Engineers	Importance given in UB's Civil Engineering Program	UB / Entry Level Engineers Ratio
	Employer Average Response		
<b>Mathematics</b>	<b>3.83</b>	<b>4.00</b>	<b>1.04</b>
Probability & Statistics	3.21	3.00	0.94
<b>Physics</b>	<b>3.46</b>	<b>3.76</b>	<b>1.09</b>
<b>Chemistry</b>	<b>3.04</b>	<b>3.38</b>	<b>1.11</b>
Basic Mechanics	3.75	3.76	1.00
<b>Thermodynamics</b>	<b>2.46</b>	<b>3.00</b>	<b>1.22</b>
<b>Basic Electrical Engineering</b>	<b>2.13</b>	<b>2.71</b>	<b>1.28</b>
Fluid Mechanics	3.75	3.52	0.94
Solid Mechanics	3.38	3.57	1.06
Soil Mechanics	3.75	3.62	0.97
Materials Science	3.38	3.19	0.95
Hydraulics	3.67	3.57	0.97
Surveying	3.63	2.29	0.63
GIS/Mapping	3.50	2.33	0.67
Computing Skills (general)	4.13	3.33	0.81
<b>Programming Language(s)</b>	<b>2.46</b>	<b>3.00</b>	<b>1.22</b>
Engineering Drawing	3.67	2.10	0.57
Engineering Design (general)	3.96	3.00	0.76
Structural Systems	3.50	3.62	1.03
Geotechnical Systems	3.88	3.43	0.88
Environmental Systems	3.83	3.00	0.78
Construction Management	3.46	2.57	0.74
Transportation Systems	3.08	3.14	1.02
Water Resources Systems	3.38	3.14	0.93
<b>Laboratory Skills</b>	<b>2.67</b>	<b>3.24</b>	<b>1.21</b>
Field Experience	3.96	2.14	0.54
<b>Numerical Analysis</b>	<b>2.58</b>	<b>3.00</b>	<b>1.16</b>
Professional Practice (general)	3.63	2.76	0.76
Engineering Economics	3.46	2.71	0.78
Technical Communications	4.38	2.86	0.65
Professional Licensure	3.38	2.71	0.80
Engineering Ethics	4.09	2.86	0.70
Ability to Work in Teams	4.42	3.24	0.73
General Education	3.79	3.33	0.88

Note: UB/Entry Level Engineers Ratio = the employer's mean response of perceived importance in UB's Civil Engineering Program over the employer's mean response for importance to entry-level engineers in the employer's company

Red highlighting indicates a value greater than 1.10 (too much emphasis at UB), Blue Highlighting indicates a value less than 0.90 (too little emphasis at UB)