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► 3 Attachments, 359 KB

The IEEE-USA Government Relations Council will hold a teleconference on 2 February to consider proposed new position statements and updates for existing statements.

Director Stogner has suggested that the IEEE BOD consider action to foster employment assistance. In that regard, the employment outlook to 2018 recently released by the Bureau of Labor Statistics is relevant.

The latest ten-year employment projections have been published in the DOL Monthly Labor Review online. These projections are updated every two years. <http://www.bls.gov/opub/mlr/2009/11/art5full.pdf>

Total employment, a measure of all jobs in the U.S. economy, is projected to increase by 15.3 million over the 2008-18 period, representing a growth of 10.1 percent. Among occupational groups, strong employment growth is expected in healthcare occupations and in computer-related occupations. Beyond the 15.3 million new jobs created by economic growth, another 35.7 million replacement jobs will become available owing to the retirement of the incumbents.

Employment growth will vary considerably over the 2008-18 projection period. It is expected that the most rapid growth, estimated at 16.8 percent, will occur among professional and related occupations.

For Network Systems and Data Communications Analysts, requiring a BS degree, 155,800, or 53.4 percent, will be added during the decade, a rate of +4.37 percent per year. Another 52,500 will be required to replace those retiring.

For Software Engineers, System Software, requiring a BS degree, 120,200 more will be needed, or 30.4 percent. This is an annualized rate of +2.69 percent. Another 33,200 will be required to replace those retiring.

Table 2. Employment by occupational group within the professional and related occupations and service occupations groups, 2008 and projected 2018

(Numbers in thousands)

Matrix code	2008 National Employment Matrix title	Employment		Change, 2008–18	
		2008	2018	Numeric	Percent
15–29–0000	Professional and related occupations.....	31,053.5	36,280.0	5,226.5	16.8
15–0000	Computer and mathematical occupations.....	3,540.4	4,326.1	785.7	22.2
17–0000	Architecture and engineering occupations.....	2,636.0	2,906.6	270.6	10.3
19–0000	Life, physical, and social science occupations.....	1,460.8	1,738.0	277.2	19.0
21–0000	Community and social services occupations.....	2,723.7	3,172.1	448.4	16.5
23–0000	Legal occupations.....	1,251.0	1,439.4	188.4	15.1
25–0000	Education, training, and library occupations.....	9,209.5	10,533.6	1,324.1	14.4
27–0000	Arts, design, entertainment, sports, and media occupations.....	2,740.9	3,073.4	332.6	12.1
29–0000	Healthcare practitioners and technical occupations.....	7,491.3	9,090.8	1,599.6	21.4
31–39–0000	Service occupations.....	29,575.9	33,645.1	4,069.2	13.8
31–0000	Healthcare support occupations.....	3,982.4	5,129.5	1,147.1	28.8
33–0000	Protective service occupations.....	3,270.0	3,670.1	400.1	12.2
35–0000	Food preparation and serving and related occupations.....	11,552.1	12,559.6	1,007.6	8.7
37–0000	Building and grounds cleaning and maintenance occupations.....	5,727.2	6,211.0	483.9	8.5
39–0000	Personal care and service occupations.....	5,044.2	6,074.8	1,030.6	20.4

Architecture and engineering occupations are expected to add roughly 270,600 jobs, representing a growth rate of 10.3 percent over the 2008-18 period. About 178,300 of these jobs, more than 6 out of 10, are expected to be for engineers, and the growth of civil engineers is anticipated to be especially robust.

The detailed outlook for engineers is shown below.

(Numbers in thousands)								
Matrix code	2008 National Employment Matrix title	Employment				Change, 2008–18		Total job openings due to growth and replacement needs¹
		Number		Percent distribution		Numeric	Percent	
		2008	2018	2008	2018			
17-2000	Engineers	1,571.9	1,750.3	1.0	1.1	178.3	11.3	531.3
17-2011	Aerospace engineers	71.6	79.1	.0	.0	7.4	10.4	22.3
17-2021	Agricultural engineers	2.7	3.0	.0	.0	.3	12.1	.9
17-2031	Biomedical engineers	16.0	27.6	.0	.0	11.6	72.0	14.9
17-2041	Chemical engineers	31.7	31.0	.0	.0	–6	–2.0	7.8
17-2051	Civil engineers.....	278.4	345.9	.2	.2	67.6	24.3	114.6
17-2061	Computer hardware engineers.....	74.7	77.5	.0	.0	2.8	3.8	23.5
17-2070	Electrical and electronics engineers	301.5	304.6	.2	.2	3.1	1.0	72.3
17-2071	Electrical engineers	157.8	160.5	.1	.1	2.7	1.7	38.9
17-2072	Electronics engineers, except computer	143.7	144.1	.1	.1	.4	.3	33.4
17-2081	Environmental engineers.....	54.3	70.9	.0	.0	16.6	30.6	27.9

The projected demand for electrical and electronics engineers will grow by one percent over the decade (3,100 jobs), a rate of a tenth of a percent per year. But another 69,200 jobs will open up to replace retiring incumbents.

BLS cautions that the numbers may have been affected by the recession that started in 2008, and therefore may be higher than would otherwise be the case.

Another factor is the ageing of the workforce, and retirements creating still more job openings. It is hard to factor in retirements, especially since more will be working past the normal retirement age in the future to counter the lack of pensions. By 2018, boomers will range in age from 54 to 72. BLS estimates this will add, on average, another 20 percent to job demand.

For the majority of occupations, job openings due to replacement needs exceed job openings due to growth. Most of the exceptions are occupations that are among the fastest growing occupations and occupations that require high levels of education or training. Because postsecondary education can be expensive and time consuming, individuals working in occupations with high educational and training requirements, such as financial analysts and civil engineers, often stay in their professions until retirement; thus, replacement needs in such occupations tend to be lower.

The latest (2010-2011) version of the classic Occupational Outlook Handbook is available at <http://www.bls.gov/OCO/>

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