Science and Engineering Graduates Offered Record High Salaries

As recruitment of new science and engineering graduates in 1981 reached record highs, starting salaries also hit new peaks, according to new survey data gathered by the Scientific Manpower Commission. Averages ranged up to $26,650 for bachelor's level petroleum engineers and $33,516 for new Ph.D.'s in electrical and computer engineering.

However, except for starting salaries in high demand fields, inflation rates held most salaries near or below earlier levels in purchasing power. Increases in 1981 starting salaries for engineering graduates ranged from 10 to 14 percent over 1980, while salaries of agriculture and biology graduates rose only 8 and 9 percent to $15,444 and $15,216, respectively.

Graduates in computer science averaged $20,712, second only to those in engineering at the bachelor's level. Chemical engineering graduates at the master's level topped the averages at $26,484, up 13.4 percent from 1980.

Although engineers attract the largest starting salaries, there is indication that this salary edge disappears with increasing job experience. In 1981, engineering graduates from the class of 1975 still commanded higher salaries than graduates in other fields from that class, but engineering graduates from the class of 1970 have lost their salary lead to graduates working in sales, business administration, and accounting.

Salaries of experienced geoscientists have risen more than 200 percent since 1973 compared to an increase of 92.5 percent in the consumer price index. Physicists and chemists, particularly at the graduate degree level, are staying about even with inflation; but salaries of experienced engineers continue to lag behind the inflation index despite the rapid rise in starting salaries in these fields.

Average offers to women were slightly higher than to men in some engineering areas. While men are still paid more in beginning salaries in all other fields, the starting salary gap was somewhat less in 1981 than it was in 1980. Yet, women doctorates earn considerably less than men in every field, in every activity, and at every level of experience, averaging 23 percent less overall.

The shortage of computer professionals, particularly in programming and systems analysis, continues to have a greater than inflationary effect in the upward movement of salaries. Of 35 occupational data processing groups examined, an increase of 12.8 percent in salary levels was reported, with the largest gains shown for the top people in the systems analysis and programming categories.

Industry pays the highest salaries and academic institutions the lowest for almost all levels of experience and education in all fields. For some groups, however, federal government salaries are higher than those paid by private industry.

Average salaries for selected white-collar occupations in private industry increased sharply between March 1980 and March 1981. The 1980–81 occupational increases typically fall in the 9 to 11 percent range compared with annual increases of 7 to 8 percent over the 1975–80 period and of 6 to 7 percent over the 1970–75 period. In March 1981 average salaries for eight levels of responsibility for engineers, the largest professional group studied, ranged from $21,712 for college graduates in trainee positions to $56,828 for those responsible for highly complex engineering programs. Chemists' salaries ranged from $18,092 to $41,911, while salaries for accountants ranged from $20,153 at the entry level to $44,994 at the supervisory level.

Among scientists and engineers working in research and development (R & D), mining and petroleum engineers topped the salary averages at all three degree levels. The lowest averages were for agricultural and biological scientists at the bachelor's and master's levels and for psychologists at the doctoral level. The value of an advanced degree was increased, with the advantage in annual income of a Ph.D. over a B.A./B.S. degree averaging $6148, up from $5943 in 1980. Women continue to earn substantially less than their male counterparts in R & D, regardless of field, level of work experience, or type of employer.

Academic salaries, already well below those in industry and government, fell further behind in 1981 as average salaries expressed in constant dollars dropped 2.3 percent over 1980, continuing a trend that has lasted for several years. As is true in other employment sectors, field plays an important part in salary paid by academic institutions. Full professors in engineering and computer science are being paid about 12 percent more, on the average, than their colleagues of equal rank in the arts. Salary data show that a fourth of the assistant professors in social science disciplines are receiving salaries below $16,000. Regardless of rank, faculty employed in engineering and computer science earn higher salaries than do those of the other disciplines surveyed—an indication of the high demand for these specialists.

In 1980–81, women's salaries as a percentage of men's ranged from 92 percent at the professorial rank to 95.3 percent at the assistant professorial rank. Some of the salary disparity between the sexes is due to the concentration of women faculty in lower paid disciplines.

The Scientific Management Commission has published a new 148-page report, *Salaries of Scientists, Engineers, and Technicians, a Summary of Salary Surveys*, which provides detailed information on starting and advanced salaries of scientists, engineers, and technicians in industry, government, and educational institutions. The report includes salary levels by type of employer, field, highest degree, sex, race, years since first degree, age group, category of employment, work activity, geographic area, academic rank, GS grade and grade distribution, and level of responsibility.

Salaries of Scientists, Engineers, and Technicians, tenth edition, includes both published and previously unpublished salary data from 57 different salary surveys for the period 1978 to 1981, and is available from the Scientific Manpower Commission, 1776 Massachusetts Avenue, NW, Washington, D.C. 20036, for $25 per copy.

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