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ENGINEERING

# **Shortage of Engineers** In U.S. Seen by 1970

➤ ALTHOUGH the Congressional Committee on Government Research reports there is now no general shortage of trained scientists and engineers in the United States, members are worried about the future.

The Committee, which has released its second of ten reports, warned that, "if present trends continue, the nation's needs for scientists and engineers will exceed the available supply during the 1960s."

Some 72,000 newly trained engineers and 30,000 scientists are needed each year during this decade to meet expected demands, the report said. Some 717,000 engineers and 295,000 scientists will be needed to fill the demand gap.

Estimates of future manpower in these fields indicate that such demands are not likely to be met, however, the report said. The supply of scientists is expected to

increase to about 313,900 by 1970, some 19,000 more than the estimated demand. The increase of engineers during the same period, however, is expected to be about 450,700, some 256,300 less than the estimated demand.

"Present evidence indicates that in such areas as electronics, nuclear energy, materials science, systems technology, and missile and spacecraft development, needs will continue particularly heavy the rest of the decade," the report stated.

• Science News Letter, 86:228 October 10, 1964

ENGINEERING

## **Engineer-Leaders Seen As Present Social Need**

➤ ENGINEERING SCHOOLS should do a better job of motivating students to recognize social responsibilities in industry and government, the president of Polytechnic Institute of Brooklyn, N.Y., told the Engineering Management Conference in Cleveland, Ōhio.

The rapid progress of technology has made a new demand for engineers as leaders, Dr. Ernst Weber said. He urged that greater exposure to the social sciences and humanities be mixed with engineering students' science courses.

• Science News Letter, 86:228 October 10, 1964

MATHEMATICS

# **Math Problems Solved After Many Years**

➤ LONG-STANDING mathematical problems that are related to nuclear reactions have finally been solved, two Purdue University mathematicians reported.

The solving of these problems, which deal with invariant sub-spaces, are so difficult that it may take as long as a year for other mathematicians to validate the solutions. Professors Louis de Branges and James L. Rovnyak reported their work in Bulletin of the American Mathematical Society, Sept., 1964.

• Science News Letter, 86:228 October 10, 1964

BIOCHEMISTRY—What substance may provide a clue to the cause of asthma? p. 232.

ENGINEERING-How many newly trained engineers will be needed each year to meet expected demands for 1970? p. 228.

EPIDEMIOLOGY-What age groups are more likely to suffer from encephalitis? p. 237.

GENERAL SCIENCE—What are the principal elements sought in the analysis of gunshot residues? p. 227.

RADIOLOGY—How are radioactive isotopes of mercury used to detect brain damage? p. 233

SPACE—What caused the IMP satellite to go back into operation? p. 231.

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