

VOCATIONS AVAILABLE FOR COLLEGE STUDENTS OF MATHEMATICS

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Introduction. College mathematics majors ordinarily do not have training to fit them for jobs in business and industry. This is due to the narrowness of the training involved in the study of "pure mathematics."

The following sorts of jobs may be filled by properly trained college graduates: 1, Arithmetical clerks and junior engineers in business and government offices; 2, engineers' helpers, statisticians, mathematical clerks; 3, marine and air navigators; 4, teachers of mathematics, applied mathematics, and engineering mathematics; and 5, highly trained mathematical consultants and research workers.

Effective ways of finding out about these jobs include interviewing personnel directors or representatives of industrial concerns; use of contacts and data which is often available in the files of the schools of engineering and commerce; seeking the help of former students and acquaintances who may be employed in business concerns, industries, or government service; and seeking contacts with industry by attending meetings of engineering societies and other groups where company representatives may be present.

Training made available to students should be varied and flexible. The situations may be met by broadening the meaning of and requirements for a degree with major in applied mathematics to cover the fields of statistics, actuarial science, mathematics of finance, etc., as well as the customary applied mechanics. In this way students could take courses which would qualify them for the various jobs found to exist. Suggested curricula are given below.

- I. Basic courses (algebra, trigonometry, analytic geometry, and differential and integral calculus).
- II. Advanced curricula.
 - A. Pure mathematics (3-hours credit each in algebra, geometry, and advanced calculus, and 3 hours electives) with minor in any field.
 - B. Applied mathematics (3 hours in advanced algebra and 9 hours of electives from applied mathematics, actuarial mathematics, statistics, mathematics of finance, etc., approved by adviser) with minor and electives in such related fields as science, engineering, or commerce.

Advice to the student should be authoritative and full. The following points should insure proper advisement.

1. At least one member of the department should be competent to advise students in each field of applied mathematics.
2. Sample programs should be available for the preparation for the various sorts of jobs.
3. A statement giving the intellectual prerequisites, the training required, and the vocational opportunities for mathematicians should be made available to the student.

Mathematics thus conceived becomes a living force in our lives today and our students have a wide range of positions from which to choose. In almost any field the scholar selects there is ample advanced work to satisfy the most exigent intellect and the positions available to him will be limited only by his ability and willingness to improve himself.