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Gail Ray

Ouachita Baptist University

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FEDERAL CAREERS AND OPPORTUNITIES FOR MATHEMATICIANS

by
Gail Ray

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FEDERAL CAREERS

The purpose of this paper is to research the opportunities for a math major in the Federal Civil Service, and the requirements for positions. Those occupations which require courses only in math are few. However, there are several more which require a combination of math with some other subject matter.

Those positions requiring only math are: Agricultural marketing specialist, cartographer, equipment specialist, geodesist, and mathematician.

Agricultural marketing specialists work in management, research, analysis and regulation of agricultural commodities. The specialists participate in trade promotion, distribution management, enforcement of marketing controls, study of marketing practices, formulation of processing standards, development of foreign markets and other related fields. Most of these jobs are in the Department of Agriculture.

Work in the field of cartography includes the precise measurement, evaluation, analysis, and interpretation of basic data required in determining the position, elevation, and shape of geomorphic and topographic features and phenomena. Cartographers determine physical characteristics of bodies of water needed for navigation, prepare charts for aerial navigation over land and sea; and conduct research in surveying and mapping techniques and procedures.

Equipment specialists apply an intensive, practical knowledge of the characteristics, properties and use of equipment to the solution of the technical problems which occur during the preproduction, production, usage and disposal of equipment. Technicians in this field are responsible for identifying various equipment and parts, determining acceptability of substitutes and interchangeability of items of supply, preparing new equipment and parts specifications, and related duties in determining the best and most economical uses of parts and equipment.

Geodesists determine by observation and measurement exact positions of points and areas of the earth's surface. They analyze, evaluate, and process field survey observations which include mathematical computation and adjustment of triangulation, traverse surveys, base lines and leveling observations. Using data on the earth's gravitational field and astronomic measurements, they develop geodetic controls for use in mapping, charting and engineering. Work of the geodesist is conducted in the field as well as in the office.

Mathematicians carry out research in basic mathematical theory or related theoretical, analytic, or evaluation studies. The majority are engaged in mathematical analyses and computations incident to research and investigative work in scientific fields, such as engineering, physics, astronomy, etc. An example of this work is the adaptation of mathematic electronic computing machines, the computation of mathematical tables, and the analysis of observational data.

Many excellent opportunities for mathematicians exist in the Federal service in the research programs of many agencies.

Several laboratories carry on programs involving the use and development of electronic and other computing machines. The programs are so varied that no matter what one's special field of interest may be, one may find a position in a program to suit his interest.

The qualifications for any of these positions may be met by four years of college study which includes 24 semester hours in mathematics. The required hours in mathematics must include differential and integral calculus and four advanced courses in mathematics for which calculus or equivalent mathematics is a prerequisite. The Federal Service Entrance Examination is not required for any of these positions. Upon obtaining any of these positions the rating will be GS-5 or GS-7. The opportunities for advancement in grade and in professional growth are very good. The pay scale for mathematicians starts at \$618 per month and increases with the grade ratings to \$1116 per month.