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1968

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Recommended Citation

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In addition to adding a whole new branch of mathematics
to the student's equipment, the study of calculus holds
tremendous possibilities for extending and deepening his
understading of the branches previously studied, and the
perfection of his skills in them. This is especially the
case with reference to algebra, trigonometry, and analytical
geometry. It has been said that the place where these
subjects are really learned is in calculus. This is evident
from the consideration of the completeness with which the
concepts and operations of these branches underlie and
permeate the whole structure of calculus. Algebraic processes
find application in innumerable connections throughout the
course. One of the main problems of formal integration is
the algebraic transformation of functions into integrable
forms. Trigonometic functions, identities, and transform-
ations are also much in evidence, and a good understanding
of analytic geometry is certainly a prime requisite, not
only in setting up functions and equations for many of the

applied problems, but in giving the student tangible geometric interpretations of the fundamental concepts of calculus. All of these branches are prerequisite to calculus in Ouachita's mathematics instructional program, as they should be. The student who, in taking up a study of calculus, lacks an adequate background in algebra, trigonometry, and analytic geometry will find himself at a great disadvantage.

The courses which precede calculus are concerned mainly with the development of concepts, the acquisition of rules for operation, and the perfection of skills, although at some points there is an approach to real rigor in the treatment of certain theorems. On the other hand, the higher analytical courses are characterized by essentially rigorous and formal treatment of the subject matter. Thus, whether the student expects to "top off" his work in mathematics with calculus or go on into the domain of higher mathematics, it is important that his study of calculus provide him, both as a matter of appreciation and as a matter of training, with some opportunity for really rigorous examination of certain topics. Those who expect to go further in mathematics will find the training afforded in this sort of rigorous treatment of the foundations and theorems of calculus to be of inestimable value to them in their later work.

Some of the demands upon the mathematic instructional program now are calling for change in character of content and for increased intensity of application of the mathematics prerequisite to the natural sciences and engineering. Too, there are increasing demands for pertinent prrerequisite training in mathematics from less technical areas such as the social sciences and psychology, as well as from business and industry. Furthermore, there exists an urgent need for the establishment of a closer affinity between the mathematics of the first two college years and that which serves as the foundation of modern scientific research.

The Joint Committee of the American Society for Engineering Education and the Mathematical Association of America recommends that colleges should raise standards for mathematics performance, pay more attention to the fundamentals of probability and statistics, and provide for preengineering students more course electives in mathematics as well as a more intensive program of problem sowing.

As a result of comparison of Ouachita to Little Rock University, Arkansas State University, Hendrix College, and the University of Arkansas, Ouachita is found to have a calculus instructional program closely parralleling the programs of these other colleges. She has a program which meets the prescribed needs of those students who will further their education in graduate schools.