

PROFESSIONALIZED SUBJECT MATTER IN JR. HIGH SCHOOL  
AND GENERAL MATHEMATICS

Ma 511

Course Description

This course stresses mathematical concepts and skills entering the junior high school curriculum in recent years, as well as those which are appropriate for students with less interest and ability in mathematics. The student is required to show evidence of use of some of these in the student's own classroom. Topics include: modular arithmetic, numeration, geometry, descriptive statistics, algebra and mathematical games.

Goals of the Course

1. To enhance the depth of the mathematics teacher's understanding of the mathematics of the junior high school and of general mathematics courses.
2. To provide suggestions for the teaching of such mathematics courses.

Course Content

1. Nature and extent of professionalized subject matter in junior high school and general mathematics.
2. Psychological and pedagogical considerations
3. Utilization of historical aids
4. Topics from number theory
5. Insights from modern algebra, geometry, and analysis
6. Applications of mathematics to the physical world
7. Recreational mathematics
8. Topics from probability and statistics

Evaluation Measures

1. Participation in class work.
2. Preparation of special reports and assignments.
3. Written examinations.

Bibliography

Adler, Irvini, Magic House of Numbers, Day, New York, 1957  
Barnett, I.A., Elements of Number Theory, Boston: Prindle,