

# 10. Mathematical Teaching in Normal Schools.

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## 10. MATHEMATICAL TEACHING IN NORMAL SCHOOLS.

I. *Normal Schools under the control of Prefectural Governments.*

The object of those normal schools which have been established and are maintained by Prefectural Governments in Japan is to train teachers for elementary schools. Marked reforms have been introduced at once in the number of school years and in the curricula of these normal schools under the revised regulations promulgated in 1925 and 1931. The first section of the regular course of the normal school takes in the graduates of the higher elementary school of two years' course, both male and female, and its course of study extends over five years. The second section of the regular course of the normal school takes in the graduates of middle schools and girls' high schools, with its course of study extending over two years. The post-graduate course of normal schools are designed to give higher educational attainments to the graduates of the regular course.

The object of mathematical teaching in normal schools is stipulated in the revised regulations of 1931 as the same governing that in secondary schools. The following gives an outline of the revised program of mathematical teaching in normal schools.

## The First Section of the Regular Course.

First Year (4 hours per week).

Integers, decimal fractions, fractions, integral expressions, linear equations, fractional expressions, rectilinear figures, circles.

Second Year (3 hours per week).

Quadratic equations, fractional equations, proportion, similar figures.

Third Year (3 hours per week).

Progressions, logarithms, daily computations relating to percentage, trigonometrical functions.

Fourth Year (2 hours per week).

Planes and straight lines, polyhedrons, curved bodies, methods of teaching arithmetic in elementary schools.

Fifth Year (2 hours per week).

Synthetic review of what has been taught during the preceding years, inequalities, maxima and minima, conic sections, ellipsoid, and study of teaching materials for elementary schools.

Additional mathematical stuffs in the fourth and fifth years include supplements to regular teaching materials, permutations and combi-

nations, binomial theorem, probability, statistics, and theory of projection and perspectives. Lesson hours for these supplementary subjects per week range from 2 to 4 hours.

### The Second Section of the Regular Course.

First Year (2 hours per week for males and 3 hours per week for females).

Progressions, logarithms, solid figures, trigonometrical functions, daily computations relating to percentage, methods of teaching arithmetic in elementary schools.

Second Year (2 hours per week).

Synthesis of the teaching materials already taught and supplements to them, inequalities, maxima and minima, conic sections, ellipsoid, and study of arithmetical teaching materials for elementary schools.

Additional stuffs for mathematical teaching in the first and second years of the second section of the regular course follow those for the fourth and fifth years of the first section of the regular course.

### II. Higher Normal Schools.

The object of Higher Normal Schools is to train teachers of *intermediate schools*, viz., of normal schools, middle schools and girls' high schools.

The following table outlines the mathematical curriculum of the first section (viz., the Mathematical Course) of the Science Department of the Tokyo Higher Normal School.

School year			
I	II	III	IV
Arithmetic (2)	Algebra (2)	Algebra (3)	Differential and integral calculus (2)
Algebra (2)	Geometry (2)	Geometry (3)	Advanced calculus (4)
Geometry (3)	Analytical geometry (3)	Differential and integral calculus (4)	Study of mathematical teaching (3)
Trigonometry (2)	Differential and integral calculus (4)	Exercise in algebra (2)	Applied mathematics (2)
Analytical geometry (2)	Exercise in algebra (2)	Exercise in geometry (2)	Exercise in mathematics (2)
Total hours per week 11	13	14	13