

The accurate measurement of base lines and triangulation on a large scale; compensation bars; various corrections to be made in triangulation for spherical excess, &c.; basis of verification; figures of the earth, how found; measurement of an arc of the meridian; convergence of meridians; laying out townships; &c.; calculation of probable errors.

Practical astronomy continued, its objects; different kinds of time; converting mean time into sidereal and *vice versa*; to find where a star will be on the meridian; finding the meridian by the greatest elongation of a circumpolar star; finding the local time and longitude by an altitude and calculated hour angle of a heavenly body; finding the variations of the compass by an amplitude and by an azimuth.

Interpolation by 1st and 2nd differences.

Description of the portable transit telescope; its uses in correcting the clock by transits; finding the latitude by transits of stars on the prime vertical and longitudes by moon; culminating stars; finding longitudes by lunars.

Marks for voluntary examinations.....1,500

APPENDIX F 6.

ROYAL MILITARY COLLEGE OF CANADA.

SYLLABUS OF THE COURSES OF GEOMETRICAL DRAWING AND DESCRIPTIVE GEOMETRY.

Total Marks—Geometrical Drawing, Obligatory, 600; Voluntary, 500. Descriptive Geometry, Obligatory, 400; Voluntary, 2,500.

The courses in Geometrical Drawing and Descriptive Geometry are divided into two parts, Obligatory and Voluntary.

Text-Books—For the Obligatory part of the courses, and for the Voluntary course in Geometrical Drawing no text-book is used; and its place is supplied by written notes. The text-book in use for the Voluntary course in Descriptive Geometry is "Practical Geometry and Engineering Drawing," by G. S. Clarke, Lieut. R.E.

Outline of Courses—Geometrical Drawing.—Only simple constructions are attempted in the Obligatory part of the course, those for the Voluntary part are more difficult. The course is throughout designed so as to teach ease, accuracy and neatness in drawing with instrument.

Descriptive Geometry—The Obligatory course consists of such simple problems as are necessary for fortification. The Voluntary course contains that part of the remainder of the subject which is of a higher nature, such as is useful for Civil Engineering.

Method of Instruction—The instruction is carried out by means of lectures and personal instruction. Fair notes will be compiled by each cadet from the lectures delivered for the Obligatory part of the courses, and for the Voluntary course in Geometrical Drawing. The lectures for the Voluntary course of Descriptive Geometry will be explanatory of the text-book, and occasionally additional matter will be given, of which fair notes will be made. The cadets will further be required to execute numerous plates and exercises.

The course of Geometrical Drawing (Obligatory and Voluntary) will be studied in the 4th class, and the Obligatory course of Descriptive Geometry during the first six months of the 3rd class. The Voluntary course of Descriptive Geometry will be commenced in the 3rd class and will be continued during the 2nd class.

The following is a detailed syllabus of the courses for each class (only fully detailed when no text-book is available for reference).