

## ADVANCED COURSE—

The work in this course is intended to fulfil the requirements of the final examination for Dominion Topographical Surveyors. It is distinguished from the work in the Ordinary Course not so much by the subjects as by the degree of refinement to which the investigations are carried.

In Geodesy the earth is considered as a Spheroid.

*Text Books.*—Gillespie's Higher Surveying (b), (c).

Chauvenet's Spherical and Practical Astronomy (c).

Gore's Elements of Geodesy (c).

Nautical Almanac, 1891, (c).

Fee for Special Students, \$19.

## (IV.) APPLIED MECHANICS.

## STATICS—

The Calculation of the Stresses in Framed Structures, Solid and Rivetted Beams, Stone Arches, etc. Both Graphical and Analytical Methods used.

## THEORY OF THE STRENGTH AND ELASTICITY OF MATERIALS—

DESIGNING OF STRUCTURES in Timber, Iron and Masonry—Arches, Retaining Walls, Foundations, Roofs, Bridges, etc.

## DYNAMICS—

Representation and Measurement of Forces and Motions.

Principles of *Work* and *Energy*.

Efficiency of Machines. Friction.

Transmission of Energy—Belts, Shafts, Crank and Connecting Rod, etc.

Fly-Wheels, Governors.

Balancing of Machinery.

Etc., etc.

## STRENGTH OF THE PARTS OF MACHINES.

## MACHINE DESIGN—

## HYDRAULICS—

Discharge of Water through Orifices, Notches, etc. Flow in Pipes and Open Channels. Water Power. Water Wheels, Turbines, Pumps, etc.