## Subjects of the Second Year.

### Pure Mathematics.

Differential and Integral Calculus.
Spherical Trigonometry.

### Applied Mathematics.

Hydrostatics.
Geometrical Optics.
Plane Astronomy.

### Experimental Physics.

Light: Use of the Heliostat and Spectroscope. Experiments with Lenses and Mirrors. Theory of the Telescope and Microscope, and of Reflecting instruments.

### Drawing.

Subjects of First Year continued.
Coloring and Shading.
Descriptive Geometry, including Projections of the Sphere and Theory of Mapping.
Machines and Structures.

### Engineering.

Theodolite Surveying (including laying out Railway Curves).
Principles of Geodesy (considering the Earth a Sphere).
Applied Mechanics.
Theory of Strength of Materials.
Materials of Construction.
Methods and Processes.
Theory of the Theodolite, Transit-Theodolite and Level.

### Chemistry.

Practical Chemistry.

### Chemistry (Applied).

Combustion, Fuel, and Furnaces.
Artifical Lighting.
Explosives.
Laboratory Practice.