PHYSICS

PROFESSOR HAYNES

FIRST YEAR. – Fall and winter terms, three hours a week; spring term, fifteen hours a week.

Two terms of fourteen weeks each are spent upon the study of General Physics, including the topics of Mechanics, Hydrostatics, Pneumatics, Heat, Light, Magnetism and Electricity. In these two terms regular recitations are required, and the topics are illustrated by the instructor with lectures and experiments. This course closes with a term of six weeks of recitation and laboratory work, in which the student is required to do the work under the supervision of the instructor, the experiments being mostly in the domain of physical measurements, including those of Specific Gravity, Heat, Light and Electricity.

The method of instruction in this department combines recitations, lectures, laboratory work, and the solution of problems, in such a way as not only to afford the necessary variety, but at the same time to furnish also a constant encouragement to the student to become self-reliant both in his methods of thought and in his work.

In the laboratory work of this department each student is required to make a sketch and give a description of the apparatus used in each experiment; to put down his data, computation, conclusions, etc., during laboratory hours, in a note book; and, *at the close of the laboratory work of each day to leave this book with the instructor for his inspection.*

No student is permitted to take this practical laboratory course who has not passed in the necessary theoretical study and lectures that preceded it.

The equipment of the Physical Laboratory, which was quite recently begun and which is constantly growing, now contains among other pieces for lecture purposes the following:

Mariott's Apparatus.
Savart's Wheel.
Atwood's Machine.
A Large Toepler-Holtz Electric Machine.
An Edison dynamo.
5 small Electric Motors.
1 set Natterer Tubes.
2 sets Geissler Tubes.
1 Combined Polariscope and Stauroscope.
1 Combined Projecting Lantern and Polariscope.
1 Lissajou's Apparatus.

2 Singing Flame Apparatus.
1 Tonometer, etc.

The following list embraces a part of the apparatus now contained in the laboratory, for students' use:

5 Earth Inductors.
5 Sliding Coil Magnets.
4 Tangent Galvanometers.
6 Astatic Galvanometers.
4 Single Coil Mirror Galvanometers.
4 Double Coil Mirror Galvanometers.
3 Dead-Beat Mirror Galvanometers.
12 Sets for Kundt's Experiment.
24 Resistance Coils.
12 Calorimeters.
12 Stem Jackets, "Apparatus A."
8 Resistance Boxes, range 1 ohm to 11332 ohms
5 Spectragoniometers (Geneva).
6 Benson Photometers.
12 Micrometers (ratchet).
13 Spherometers.
6 Pierce's Bridges.
1 B. A. Bridge
2 Standard Ohms.
1 Cathetometer.
1 Becker Balance.
6 Kohlbusch Balances.
1 Springer Torsion Balance.
3 Marine Sextants.
1 Astronomical Sextant with artificial horizon.
1 Cistern Barometer.
2 Aneroid Barometers.
2 Jolly Balances.
7 Sonometers.
1 "Bradley's Complete Apparatus," range 2-10000 of an ohm to 11111 1-10 ohms.
1 "Standard Resistance Box and Bridge," tested by Professor W. A. Anthony; range from 1-1,000,000 of an ohm to 110 millions of ohms.