Excerpts from the 1910-11 MCM Catalogue –

B. Physics

The President, Professor Fisher, Assistant Professor Grant, Messrs. Rood, Haigler, Jordan and Osborne.

The aim in the department of Physics, as in that of Mathematics, is to select such objects as have, directly or indirectly, a bearing on the practical work of the mining engineer, and to treat these in as practical a manner as possible. The instruction is given by the laboratory method. The student goes at once into the laboratory, and there, under the direction of the instructors, experiments for himself. The experiments are mostly quantitative.

So far as possible mere mechanical following of direction is excluded, and intelligent thinking is made necessary to the accomplishment of the work. Every effort is put forth to have the student clearly develop and fix in his mind the principles of Physics which he will afterward use, and also to lay the foundation fo rthat skill in accurate determination of quantity and care of delicate apparatus which are needed by the practical engineer. Accuracy and order are insisted on from the first. Each student receives individual attention, and, with the exception of a few experiments requiring more than one observer, he does his work independently of all other students.

The work of the laboratory is accompanied by illustrated lectures, and by text-book and recitation work.

The department is equipped with a good assortment of modern apparatus for lecture illustration and individual experiment.

B 1. General Physics

Professor Fisher, Assistant Professor Grant, Messrs. Rood, Haigler, Jordan and Osborne.

This course includes Mechanics, Heat and Light. Lecture, recitation and laboratory work proceed together throughout the course. The geometrical side of Light is developed mostly in the laboratory, the wave theory in the lecture room with aid of the optical lantern.

Twelve hours a week, twenty-one weeks, winter and spring terms. To count as eitht-tenths of a credit. Must be preceded by, or accompanied with A 1 (Algebra) and A 2 (Plane Trigonometry). The text books are Glazebrook's Heat, Merrill's Mechanics, and Laboratory Physics issued by the department.

B 2. Physical Measurements

Professor Fisher and Mr. Haigler.

A more advanced course in measurements of precision, open to those who have taken B 1 and B 4 (Physics). The work offered will be mainly in the determination of densities, moments of inertia, calorimetry and photometry. Each student will work independently of all others, and to a considerable extent the choice of the line of work he is to pursue will lie with him.

Twenty-four hours a week, five weeks, last five weeks of the spring term. To count as four-tenths of a credit.

B 3. Electrical Measurements

Professor Fisher and Mr. Haigler.

The increasing use of electricity in mining and related industries has caused the Michigan College of Mines to give particular attention to this subject.

This course is offered to those who are making Electrical Engineering their principal subject, to those who intend taking up Electrolytic or Electro-metallurgical work, and to any other who which to become familiar with those modern methods of electrical measurements necessary wherever there is made any practical application of this agent.

In the course are included the measurements of current, resistance, potential difference, electromotive force, quantity, capacity, mutual and self induction, strength of field, etc.

In the lecture room the theory of a given measurement is taken up; then the construction and calibration of the instrument used in the measurement are studied, the instrument being at hand for inspection; and, finally, in the laboratory, the student calibrates, if necessary, and uses the instrument in making the measurement.

Examples of all the principal instruments used in modern electrical methods are owned by the institution, and are available for the work of this course.

The text book is Carhart and Patterson's Electrical Measurements.

Nine hours a week, sixteen weeks in the winter term, and first five weeks of spring term. To count as five-tenths of a credit. To be preceded by C 1 (Analytic Mechanics).

B 4. General Physics

Professor Fisher, Assistant Professor Grant, Messrs. Rood, Haigler, Jordan and Osborne.

Subject B 4 continues the work begun in B 1, and includes Heat and elementary course in Magnetism and Electricity. Text books used are Glazebrook's Heat, Jackson's Electricity and Magnetism and Laboratory Physics issued by the department.

Twelve hours a week, twelve weeks, fall term. To count as five-tenths of a credit. To be preceded by B 1 (Physics).

B 5. Light

The President and Professor Fisher.

A more advanced course continuing the work begun in this subject in B 1 (Physics). The course is designed particularly for those students who desire to take up Petrography. It deals chiefly with polarization. The subject is presented mainly by experimental lectures. A very complete outfit of projection apparatus is in the possession of the department for use in this course.

Six hours a week, twelve weeks, Fall term. To count as two-tenths of a credit. To be preceded by B 1 (Physics) and W 4 (Elementary Mineralogy and Crystallography), and accompanied with X 1 (Petrography).

C. Mechanics

Professor Fisher and Assistant Professor Grant.

An attempt is made in Mechanics to develop the essential principles, and to render the student proficient in applying them to practical rather than theoretical problems. To this end a large number of problems are solved which, so far as possible, are selected from machines or structures with which the student is already familiar, or the study of which he is subsequently to take up.

C 1. Analytic Mechanics

Professor Fisher and Assistant Professor Grant.

Hancock's Applied Mechanics for Engineers is used as a text, and this is supplemented with special problems having a direct bearing on the student's future work in engineering.

Subject C 1 occupies three hours in class room in the winter term and first half of spring term. To count as five-tenths of a credit.

To be preceded by, or accompanied with A 5 (Calculus).

C 2. Analytic Mechanics

Professor Fisher and Assistant Professor Grant.

Subject C 2 continues the work begun in C 1, and is given three hours in class room, twelve weeks, in the fall term. To count as four-tenths of a credit.

To be preceded by C 1 (Analytic Mechanics).