THE TECH

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BOSTON, MASS., DECEMBER 18, 1909.

The Department of Mechanical Engineering is presented in this issue by many articles. The course is covered by a general article, and by numerous others presenting the more important courses of the later years. Of much interest to the senior class, will be the record of what former graduates are doing.

The Tech wishes to express its gratitude for the contributions of professors and graduates.

The Tech also regrets that at the last minute the space limit excluded an article on "Mechanical Engineering at Other Institutions," by Mr. Walter Humphreys.

MECHANICAL ENGINEERING.

(Continued from page 11.)

A very large number of applications to engineering work are introduced, thus acquainting the student with current practice, with the problems that arise in the pursuit of his profession, and with the manner of applying to their solution not only the theory, but also the results of experiments, and this is considered a very important part of the instruction.

Mechanism

Which is that portion of kinematics which finds application in engineering. This course includes the design of gear-teeth, and also a study of valve gears, which latter is fundamental to the understanding of the action of the steam engine.

Applied Mechanics.

This course touches vitally engineering work at almost every point. It comprises a general and mathematical discussion of the action of forces upon bodies, whether at rest or in motion, including stresses in all sorts of structures and parts of machinery and also a full treatment of the strength and elasticity of materials, including pieces subject to tensile, compressive, shearing, torsional, and compound stresses. It also treats of the results of experiments, especially those made under the conditions of practice. Any attempt to enumerate the applications presented in this course would require far more space than can be devoted to it in this article.

Thermodynamics.—Steam and Gas Engineering.

Inasmuch as Thermodynamics is the mechanical theory of heat, and as steam is still the principal source of power, and without it most all of our works would have to shut down, the importance of such a course is self-evident. Moreover, the practical applications in this case and the problems that arise in the use of heat as a source of power, include the consideration of an enormous quantity of machinery, as steam engines, steam turbines, gas engines, gas producer plants, oil engines, boilers, condensers, and a very large amount of other apparatus.

Hydraulics and Hydraulic Motors.

In whatever special line the prospective engineer is subsequently engaged, he may have to establish pumping stations for water supply or for drainage, or the works necessary for a power plant, or a dock or wharf if his works are on the water's edge.

Electricity.

Inasmuch as electricity has come to play such an extensive part in mechanical engineering work it is necessary that the student should have as much familiarity with its principles as time will allow. As examples of these applica-

PROF. CHARLES E. FULLER.

tions we have especially, electric transmission, electric cranes, electric lighting, and electric railroads.

Machine Design.

This course is of the greatest importance to the student and especially that portion which deals with the details of machines and brings to bear upon their design, the principles of Applied Mechanics, Thermodynamics, etc.

Mechanic Arts.

A course in the mechanic arts is given, not for the purpose of making the student a finished workman, but so that he may be familiar, through his own experience, with the way in which things are made and that he may thus be able to avoid designs which are either impossible or unduly expensive to construct.

The remaining subjects in the Course will not be commented upon, in order to avoid making this article too long.

PROF. WILLIAM A. JOHNSTON.

In addition to the professional studies a considerable amount of time is devoted to literary, historical, and economic studies, with the view of giving the student a greater breadth, and to aid in making him a well-rounded man.

There is also another matter that is of the greatest importance to the prospective engineer, and that is, that he should be taught to perform original investigations inasmuch as the ability to conduct them is much needed by the engineer in the practice of his profession, and with this purpose in view, a thesis is required of the student before he can receive his degree, this thesis to consist of an investigation.

The investigations made in the laboratory, partly in connection with the

(Continued on page 19.)

GENERAL NOTICES.

FIRST YEAR.

Entrance Condition Examinations.

First-year students are expected to take at the end of the present term all entrance examinations in which they have not already clear records, with the following exceptions:

1. Students having conditions in entrance History and entrance Physics. No examination will be held in entrance History and entrance Physics at the semi-annual examination period.

2. Special students taking no work dependent on entrance subjects in which they have not clear records. Such students, if they desire to become regular, may take remaining examinations in June or September.

3. Students who are now making up entrance French and German by taking the elementary courses, although they are privileged to take these examinations.

4. Students entitled to excuse from particular entrance conditions on the basis of good term work. This applies to conditions in entrance Algebra, English, French, German, and Plane Geometry and students will be notified if excuse can be given.

For the Faculty Committee on Entrance Examinations,
WALTER HUMPHREYS,
Registrar.

December 14, 1909.

FIRST YEAR.

Conference hours for students who wish to confer with Heads of Departments in regard to the Choice of Course.

COURSE I—Prof. Spofford will meet students on Tuesday, Dec. 21st, from 1 to 1:30 in 42 Eng. A.

COURSE VI—Prof. Jackson will meet students on Monday, Dec. 20th, at 1 P. M. in 6 Lowell.

COURSE VII—Prof. Sedgwick will meet students Tuesday, Dec. 14th, at 4 P. M.; Wednesday, Thursday, and Saturday, Dec. 15th, 16th and 18th at 12 o'clock, in 27 Pierce.

COURSE VIII—Prof. Cross will meet students any day but Saturday at 12:05 in 11 Walker.

COURSE XI—Prof. Porter will meet students on Wednesday, Dec. 22nd, from 1 to 2 in 46 Eng. A.

DYNAMO ELECTRIC MACHINERY (661)

The problems recently assigned will be due on Dec. 21.

HARRISON W. SMITH.

MILITARY SCIENCE.

The Drill hour, on Mondays and Fridays, on and after January 3rd will be changed from three to two o'clock .

WALTER HUMPHREYS,
Registrar.

ELECTRICAL ENGINEERING.

There will be a final examination in Elecrical Engineering (683) for Course II men, on Saturday afternoon, December 18th, from 2 to 4, in Room 30, Engineering Building A.

WALTER HUMPHREYS,
Registrar.

TECH SHOW

All lyrics to be handed in at Cage for K. Greenleaf by 4 P. M., Dec. 18. Music writers to meet Mgr. Greenleaf in Show office at 4. P. M., Tuesday, Dec. 21.

1910

1910. Only those Seniors who have paid their class dues up-to-date, will be allowed to vote. Names of those who have not paid will be posted up in the Union. Dues may be paid to W. O'Hearn, I and XI; L. O. French II; R. Goodwin, III; H. S. Clevendon, IV; E. M. Potter, VI; D. Clapp, X; M. P. Anderson, XIII and Luther Davis, XIV.

CALENDAR.

Saturday, December 18.
2:30 Hockey Practice.
Monday, December 20.
3:30 Hockey Practice.
4:00 Gym Team Practice.
Tuesday, December 21.
8:00 Gym Meet at Gym.
Wednesday, December 22.
8:00 Mech. Eng. Society at Union.

ANNUAL WINTER CONCERT VERY ENJOYABLE

About Two Hundred Couples Present in Copley Hall Last Evening.

When at two o'clock this morning, with the last strains of music, the Winter Concert became a thing of the past, it was the unanimous opinion of all present that the evening had been a most enjoyable one, and that the management of the Musical Clubs had established more firmly than ever their claims to the enthusiastic support of the undergraduates.

The Hall itself was most attractively decorated, the walls being completely covered with Oriental Tapestries and rugs, and with large antique urns and vases suspended from the ceiling.

The program, though short, was rendered in a very capable manner and the audience by their applause called for repeated encores. The opening number was "'Tis Morn," by Giebel, which was sung by the Glee Club, and was followed, as an encore, by "My Pipe Dream," by Packard, '07, from Tech Show, 1907.

The Mandolin Club in the second number made their first appearance, playing the "Pied Piper Selections," J. S. Martin adding greatly to the enjoyment of the number by his accompaniment on the Orchestra Bells. For an encore "Yankee Dandy March" was played.

The Technology Trio rendered a selection from Faust and also a "Hungarian Dance" in a very effective and brilliant style. Mr. Sweet played the violin, Mr. Shaw the 'cello, while Mr. Thode was at the piano.

In the fourth number the Banjo Club played the "Rose Tree March," and were obliged to respond to an encore. They were followed by the Glee Club singing "Doan You Cry, Ma Honey," by Foster. This selection was appreciated by the audience, and two encores followed,—the first a humorous selection, "The Bill of Fare," and the second, "Sleep, My Lady, Sleep," a familiar, tuneful melody, the effect of which was greatly increased by the entire club humming the refrain.

Mr. Shaw, accompanied by Mr. Martin on the piano, showed his musical ability by his fine playing of "Beurceuse" from Godard's "Jocelyn" and again in his encore number of Schubert's "Moment Musical."

With the seventh number, the Banjo Club made their second appearance, playing the "Chinese American March" and responding with an encore of a humorous nature, in which, one by one, the players went off the stage, leaving the leader alone till he, too, urged by the time shown by an Ingersoll watch big enough to take the place of a town clock, beat a hasty retreat.

This novel number called for still another encore, and playing the "Husking Bee," a burlesque of an old-fashioned country Barn Dance was given in a very entertaining fashion.

With the singing of Wonson's "Dear Old M. I. T.," by the Glee Club, accompanied by the Mandolin Club, and Mr. Martin on the Bells, the concert came to a close, the last chorus being followed by a rousing M. I. T. cheer.

The hall was cleared and A. F. Thode's Orchestra furnished the music for dancing.

The matrons were:
Mrs. A. E. Burton.
Mrs. Richard Maclaurin.
Mrs. George Wigglesworth.
Mrs H. P. Talbot.
Mrs. Allyne Merrill.

The Reception Committee consisted of
W. W. Warner.
J. S. Martin.
P. L. Caldwell
J W. Northruj.
H. Lockett.

Another brilliant example of the seaworthiness of the submarine has just been furnished by the British Navy. In all probability, a world's record for an open-sea run was made by the flotilla of ten British submarines in their voyage from oPrtsmouth to Dundee, the new submarine base in the North Sea. Despite the heavy waves and rough weather, the flotilla covered the distance, 512 miles, in 56 hours, maintaining an average speed of 9.8 knots.