

## Mechanical Engineering School Laboratory Is Modernly Equipped

Organized in 1923-24 Term, It Has Kept Pace With Rest of University—New Wing On Phillips Made Space Available For a Commodious Work Room—New Machines Added.

The School of Mechanical Engineering, which was organized and began to offer degrees in the 1923-24 school term, has made great progress in the four years of its existence and the laboratories are being better equipped.

When the new wing of Phillips Hall was completed in 1925, laboratory space was made available on the ground floor for the use of the Mechanical Engineering Department. The greater part of this space constitutes what is known as the steam and gas laboratory and is being equipped for making experimental studies of power plant apparatus. Adjoining the main laboratory there is a smaller laboratory for light testing work, such as the calibration of instruments, flue gas analysis, fuel analysis, and fuel and oil testing. Under a portion of the main laboratory there is a sub-basement for condensers and water measuring apparatus.

Before the new space was available, a twenty-five horsepower Chandler and Taylor slide valve engine had been set up for experimental work in the university power plant. This engine has since been installed in the new laboratory and provided with a surface condenser and other special features. The combination made possible a considerable number of experimental studies of heat-power transformations. It provided, however, only for work of the most elementary type and was but the beginning of a laboratory development definitely planned for years in the future.

**New Type of Engine**  
The latest and most important addition is a uniflow steam engine, built especially for laboratory work by the Titchburg Steam Engine Company of Fitchburg, Massachusetts. For this type of engine, it is smaller than generally is desired commercially. However, from the laboratory standpoint it is anything but a toy, since the quantity requiring measurement in a test are as large as can be handled, conveniently, in a laboratory. Depending upon the conditions of operation, the engine will deliver from 75 to 100 horsepower at 175 revolutions per minute.

This is the most modern type of reciprocating steam engine, the uniflow principle giving it an efficiency far superior to that of any other type. Except in the largest sizes, it is superior to the steam turbine. It is the second engine to be installed in any college laboratory, the first being the one at the Massachusetts Institute of Technology.

The engine operates with or without steam cylinder jackets, and has steam pressure up to 175 pounds per square inch. Other features include an automatic oiling system, special laboratory brake wheel and brake. Altogether, the engine is a beautiful piece of machinery and a splendid example of the engine builder's art.

In accordance with plans for future development, the General Electric Company is now building for the University laboratory a 25 kilowatt turbo-generator set. The turbine will be a two-stage machine of about 50 horsepower capacity, running at 3600 revolutions per minute. The generator will be direct current, 250 volt machine. This set, like the uniflow engine, is a special unit for experimental work and may be operated under a wide variety of conditions.

With the addition next year of a suitable surface condenser, the laboratory will contain for studies on steam prime movers, a simple non-condensing steam engine of the most modern type, that is, the uniflow, and a condensing steam turbine.

**Future Plans**  
The next step will be additions in the gas engine field and will include a high-powered automobile engine, complete with accessories and Sprague electric

dynamometer, a large stationary gasoline or oil engine and a Diesel or semi-Diesel gas engine. Following the addition of gas engine equipment, a complete small steam power plant will be installed. It will consist of a vertical boiler and a steam engine, provided with accessories for complete power plant tests. Looking still farther into the future, it is planned to add apparatus in the fields of refrigeration, air compression, heating and ventilation.

The steam and gas laboratory is being planned with a view to giving the student some first hand experience with the principal types of power plant machinery that he will meet later, either in the operating field or in the field of engineering design and manufacture.

The mechanical engineering student is endeavoring to master the principles underlying the design and appropriate application of machinery. And so in the laboratory he is concerned mainly with those high scientific studies that have to do with design, investigation, research and invention.

### Carolina Licks V. P. I.; Breaks Three Records

(Continued from page one)  
points collected from first in the broad jump and javelin and a third in the low hurdles. Captain Montague of V. P. I. was second in scoring as a result of first in both dashes.

Hoyt Pritchett's two-mile will go down in history as one of the greatest races ever run at the University. He was not pushed at all, finishing a good 200 yards in front of the second man, and

was bothered in the last two or three laps by a slight drizzle that had slowed him up considerably. Galen Elliott, holder of the conference mile and five mile record, eased through the mile allowing his teammates Russ and Tilley to take first and second. He came back an hour and a half later, entered the half mile for the first time this year, and breezed through in beautiful style, to set a new state record in the event.

The 440-yard run was one of the closest races of the meet. Hutchison of V. P. I. came up in the last few yards to take first place from Rhinehart in the splendid time of 51 seconds, which tied the University record for the event. Rhinehart regularly runs the half mile, but was shifted to the quarter in the Cadet meet to see what he could do. He came through brilliantly.

**Summary by events:**  
100-yard dash, Montague, V. P. I., first; Shanklin, V. P. I., second; Gray, Carolina, third. Time, 10 seconds.

One mile run, Russ, Carolina, first; Tilley, Carolina, second; Elliott, Carolina, third. Time, 4 minutes 39 sec.

Pole vault, McFayden, Johnston and Cowper (all of Carolina), tied for first. Height, 10 feet 3 inches.

Shot put, Fussell, V. P. I., first; Gray, V. P. I., second; Williams, Carolina, third. Distance, 41 feet 5 1-4 inches.

220-yard dash, Montague, V. P. I., first; Shanklin, V. P. I., second; Harrison, Carolina, third. Time, 22.6 sec.  
120 high hurdles, Pearson, Carolina, first; Purser, Carolina, second; Caldwell, V. P. I., third. Time, 16 sec.  
High jump, Pearson, Carolina and

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Mary Carr in  
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Pathe Comedy—"Do Your Duty"

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Matinee Only  
Anna Q. Nilsson and Holbrook Blinn  
—in—  
"THE MASKED WOMAN"

Night Only  
Harry Langdon in  
"HIS FIRST FLAME"

Peak, V. P. I., tied for first, Purser, Carolina, third. Height, 5 feet 8 in.  
Discus, Lund, V. P. I., first, Gray, V. P. I., second; Colburn, Carolina, third. Distance 141 feet 10 3-4 inches. (Betters Southern conference record.)

Broad jump, Sandlin, Carolina, first; Peake, V. P. I., second; Johnston, Carolina, third. Distance, 21 feet 3 1-4 inches.

440-yard dash, Hutchison, V. P. I., first; Rhinehart, Carolina, second; Doughty, V. P. I., third. Time 51 sec.

Two mile run, Pritchett, Carolina, first; Daniels, Carolina, second; Penn, V. P. I., third. Time 9 minutes 50 seconds. (Betters Southern conference record.)

220 low hurdles, Giersch, Carolina, first; Avera, V. P. I., second; Sandlin, Carolina, third. Time 26.2 seconds.

880-yard run, Elliott, Carolina, first; Hutchison, V. P. I., second; Cook, V. P. I., third. Time 2 minutes. (Betters state record.)

Javelin, Sandlin, Carolina, first; McEwan, V. P. I., second; Myers, Carolina, third. Distance, 164 feet 11 1-2 inches. Team score, Carolina 69, V. P. I. 57.

### SENIORS TAKE NOTICE!

All Seniors interested in entering the try-outs of the Manum Medal Contest are requested to see the President of the Senior Class or Dr. McKie at once.  
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