

**THE PRE-ENGINEERING INVENTORY TESTS FOR  
ENGINEERING STUDENTS  
OF  
THE OKLAHOMA AGRICULTURAL AND MECHANICAL  
COLLEGE**

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The Measurement and Guidance Project in Engineering Education is jointly sponsored by the Society for the Promotion of Engineering Education, the Engineering Council for Professional Development, and the Carnegie Foundation for the Advancement of Teaching. The general aim of the project is to discover the effectiveness of certain types of objective examinations designed to assist in the selection and guidance of engineering students. The battery of tests thus far developed by the project consists of seven individual tests, as follows: Test I—*General Verbal Ability*, Test II—*Technical Verbal Ability*, Test III—*Comprehension of Scientific Materials*, Test IV—*General Mathematical Ability*, Test V—*Comprehension of Mechanical Principles*, Test VI—*Spatial Visualizing Ability*, Test VII—*Understanding Modern Society*. The tests require six hours to administer. They may be used by any school of engineering which is willing to abide by the regulations and restrictions which must be in effect during the experimental stage of such a project. The tests are not for sale but are furnished to the cooperating schools of the project. All tests are scored in the central office in New York. The cost of participation is a flat fee of one dollar per student tested.

A student who completes all of the tests in the pre-engineering inventory is assigned eight scores by the project. Seven of these scores are the scores on the individual tests and the eighth score is a composite of the other seven. These scores are recorded on an individual student test-profile card as raw scores. These raw scores are then translated to percentiles and graphed on a percentile grid which is also on the profile card. The percentile score of any student on any test is based upon his performance in relation to the performance of others in his particular group. The tests have not been given to a sufficiently large number of representative pre-engineering students to establish the statistical basis for a system of scaled scores. However, for guidance purposes, these percentile ranks describe the student's performance relative to others in his group accurately enough to be of value.

The *Pre-Engineering Inventory Tests* were given September 13, 1944, to 116 entering freshmen engineering students of the Division of Engineering of the Oklahoma A. and M. College. The tests were given in two three-hour sessions on the afternoon and evening of that date. The papers were returned to the home office for scoring and within approximately ten days the profile card was received by the Dean of Engineering.

These profile cards, carrying the eight scores and the corresponding percentiles, are being used as guidance material by the Division of Engineering. Indications are that they can be used successfully to determine whether a student of engineering has the necessary qualifications to pursue his course of study successfully.