SCIENCE EDUCATION

Graduate Study

Rensselaer Polytechnic Institute is offering a graduate program in astronomy designed to provide the background needed to do research in astronomy and the atmospheric sciences, with particular reference to space exploration and solar-terrestrial relations. Administered by the Department of Physics, the program offers courses in astrophysics, solar physics, space environment, upper-atmospheric physics, celestial mechanics and orbital determination, dynamics of the galaxy, and extragalactic systems.

Research projects now in progress include solar radio astronomy, the ionosphere, tropospheric phenomena, solar-terrestrial relations, and the nature of the interstellar medium. Equipment at the RPI observatory in Troy and its field station in Grafton, N. Y., includes a 12-inch reflector, a 3-inch Ross camera, several smaller telescopes, a 517-megacycle swept-lobe interferometer, and an 18-megacycle cosmic-noise recorder. Staff members and students may participate in cooperative arrangements with the National Radio Astronomy Observatory and the National Astronomical Observatory for gathering research material. RPI has announced that several graduate assistantships with stipends of $1800 to $2000 plus tuition are available.

Correspondence concerning admission, fellowships, assistantships, and scholarships should be sent to the Chairman of the Committee on Graduate Admissions, Rensselaer Polytechnic Institute, Troy, N. Y. Requests for further information about astronomy programs should be addressed to Dr. Robert Fleischer, Professor of Astronomy.

A graduate program leading to the degree of Doctor of Philosophy in physics will be offered at Arizona State University in Tempe, starting in September. Laboratories for research in solid-state physics, molecular structure and spectra, and low-temperature physics have been developed to provide opportunities for thesis research. Further details can be obtained by writing to Dr. Arnold G. Meister, acting chairman of the Department of Physics.

The University of Illinois' Board of Trustees has approved the establishment of an advanced educational program leading to the PhD in nuclear engineering. Two years ago the University established a program of graduate study in nuclear engineering at the master's degree level, and during that period thirteen degrees have been awarded and the school's nuclear facilities have been considerably expanded. The latter now include a TRIGA reactor, three subcritical assemblies, a heat transfer loop, a radio-chemistry laboratory, and a nuclear metallurgy laboratory. The new doctoral program is under the direction of a "nuclear committee" of graduate faculty members representing all departments of the University's College of Engineering.

Students of the University of Illinois chapter of Tau Beta Pi, the engineering honor society, have prepared a booklet entitled *The Road to Graduate School* as an aid to engineering students who are considering graduate study. Published by the Committee on the Development of Engineering Facilities of the American Society for Engineering Education, the pamphlet contains information on the kinds of study and degrees available, where and when to apply, financial support and how to apply for it, housing for married students, jobs for wives, etc. The booklet was published with the support of the Ford Foundation and is being distributed through the offices of engineering deans and individual chapters of Tau Beta Pi.

Testing

Those having reservations about the current large-scale use of machine-graded multiple-choice tests as an objective statistical means of measuring individual ability may be interested in the views of Banesh Hoffmann, a skeptical professor of mathematics at Queens College in New York, whose article, "The Tyranny of Multiple-Choice Tests," appears in the March 1961 issue of *Harper's Magazine*. The particular targets are the College Board tests and the National Merit Scholarship tests, both of which are intended to operate on a mass scale in selecting the most able candidates among the hundreds of thousands of high-school students wishing to attend college. The author's contention, fortified with examples and with the supporting views of other critics, is that questions used in the tests are in fact likely to discriminate against the most gifted individuals, those who are outstandingly original and intelligent and capable of doing creative work. Dr. Hoffmann, who concedes that the problem of large-scale testing offers no easy solution, advocates a thorough inquiry, perhaps by a committee appointed by such organizations as the National Academy of Sciences and the American Council of Learned Societies which "should include creative people of commanding intellectual stature who could bring fresh vision to the testing situation, especially as it affects those gifted young people whose talents do not conform to the statistically based norms of the multiple-choice testers".

Summer Programs

The Holloman Summer Scientific Seminars, co-sponsored by the University of New Mexico and the Air Force Missile Development Center, will take