1.

The California Institute of Technology

The California Institute of Technology is a privately endowed, nonprofit educational institution of university rank devoted to undergraduate and graduate instruction and research in science, engineering, and the humanities and social sciences. For financial support, the Institute depends on income from endowment funds, tuition fees, gifts, and contracts or grants involving federal, state, and local agencies. Research performed under such contracts or grants is chosen to be appropriate to the Institute's general program of advancing basic knowledge or else in response to an urgent public need.

As a private institution, the Institute is free to pioneer in education and research. It selects its own students and thus can concentrate on quality. It is able to conserve its resources for the most effective development of its students and for those programs of instruction and research that will make the greatest contribution to the acquisition of knowledge.

The History of the Institute

The Institute traces its origin to Throop University, which the Honorable Amos G. Throop founded in Pasadena in 1891 to supply instruction in manual training, domestic science, and kindred subjects, and to prepare its students for teaching positions in these fields. Throop Polytechnic Institute (as it was known after 1892) offered college-level work leading to the bachelor's degree and, to round out its educational program, also maintained an academy and an elementary school.

Thus it continued for nearly two decades, housed in three buildings on a campus in the current business section of Pasadena. In 1907, under the influence of Dr. George Ellery Hale, then the Director of the Mount Wilson Observatory, the aim of the institution was redefined. It was to concentrate on engineering training, with the possibility that it might in time, with the friendly association of the Mount Wilson Observatory, develop into a center for instruction and research in both pure and applied science.

In 1910 the Institute moved into Pasadena Hall (later Throop Hall), the first building on the present campus. For the next decade it continued primarily as an engineering college (known after 1913 as Throop College of Technology). The direction in which it was to develop, however, was broadened by the completion of the Gates Chemistry Laboratory in 1917 and the inauguration of instruction and research in chemistry and chemical engineering in the same year under the direction of Dr. Arthur Amos Noyes, Professor of Physical Chemistry and former Acting President of the Massachusetts Institute of Technology. Also in 1917, Dr. Robert A. Millikan, Professor of Physics at the University of Chicago, agreed to spend a part of each year at Throop, developing a program of graduate instruction and research in physics.

World War I necessitated a temporary diversion of energies, but after its close, plans for reorganization and development were taken up again. In 1920, the name Throop College of Technology was changed to California Institute of Technology. The following year, with the assurance of a permanent endowment fund and a physics laboratory, Dr. Millikan came to the Institute as Chair of the Executive Council.

In the same year, Noyes, Hale, and Millikan formulated the basic educational policy of the Institute. This policy, adopted by the Board of Trustees on November 29, 1921, has been largely responsible for the present character of the Institute and resulted in a graduate school that is recognized as one of the country's outstanding centers for advanced study and research. Similarly, an undergraduate school of distinctive quality developed, which merits recognition as making a contribution to collegiate education in science and engineering fully comparable to that which the graduate school makes to more advanced professional training.

For the five years beginning with the summer of 1940, the major part of the Institute's personnel and facilities were devoted to national defense for World War II. A part of the war effort involved research in rockets and jet propulsion, and the laboratories set up for these studies continue as the Jet Propulsion Laboratory in the upper Arroyo Seco. At the end of the war, the Institute returned rapidly to its primary objectives of undergraduate and graduate instruction and fundamental research.

In 1945, Dr. Millikan retired from the chairmanship of the Executive Council to become Vice President of the Board of Trustees. The following year, Dr. Lee A DuBridge was elected President of the Institute and served in that position until 1969. He was succeeded first by Dr. Robert F. Bacher as Acting President and then by Dr. Harold Brown. In January 1977, Dr. Brown became the Secretary of Defense and Dr. Robert Christy, Caltech's Vice President and Provost, became Acting President. On July 1, 1978, Dr. Marvin L. Goldberger became President. Dr. Goldberger retired from the Presidency in 1987. He was succeeded by Dr. Thomas E. Everhart, who became President on September 1, 1987, and served in that position for 10 years. From October 15, 1997 through August 31, 2006, Dr. David Baltimore served as President. He was followed by Dr. Jean-Lou Chameau who took office on September 1, 2006 and served until June 30, 2013. He was succeeded by Caltech's Provost, Dr. Edward M. Stolper who served as Interim President until June 30, 2014. On July 1, 2014, Dr. Thomas F. Rosenbaum became President.

The Institute has moved rapidly ahead in improving the quality of its education and research in all fields. A complete account of these developments can be found in the annual *Caltech Catalog*.

Educational Policies and Objectives

The educational policy of the Institute has not changed from that formulated by Caltech's three founders. It is a wise and still pertinent statement of education philosophy. Its substance is stated here.

"The four-year undergraduate engineering courses of the Institute shall include an unusually thorough training in the basic sciences of physics, chemistry, and mathematics, and a large proportion of cultural studies; the time for this being secured by eliminating some of the more specialized engineering subjects, which may be pursued in graduate courses by students desiring further professional training. It is hoped in this way to make the undergraduate courses of the Institute a combination of a fundamental scientific training with a broad cultural outlook, which will afford students with scientific interests a type of collegiate education which avoids the narrowness common with students in technical schools and the superficiality and the lack of purpose of many of those taking academic college courses. The instruction in the basic engineering subjects will, however, be maintained at the highest efficiency so that the graduates of the engineering courses may be prepared for positions as constructing, designing, operating, and managing engineers. Provision will also continue to be made, especially in the four-year courses of Physics and Engineering, Chemistry and Chemical Engineering, for the training of students for positions in the research and development departments of manufacturing industries.

"Every effort shall be made to develop the ideals, breadth of view, general culture, and physical well-being of the students of the Institute. To this end the literary, historical, economic, and general scientific subjects shall continue to be taught by a permanent staff…of mature judgment and broad experience; the regular work in these subjects shall be supplemented by courses of lectures given each year by people of distinction from other institutions, the …assemblies addressed by leading people in the fields of education, literature, art, science, engineering, public service, commerce and industry shall be maintained as effectively as possible; moderate participation of all students in student activities of a social, literary, or artistic character, as in the student publications, debating and dramatic clubs, musical clubs, etc., shall be encouraged; and students shall be required or encouraged to take regular exercise, preferably in the form of games or contests affording recreation….Great importance is also attached to making the campus attractive in its architectural and landscape features, because of the influence of such surroundings on the students and on the public.

"In all the scientific and engineering departments of the Institute, research shall be made a large part of the work, not only because of the importance of contributing to the advancement of science and thus to the intellectual and material welfare of mankind, but also because without research the educational work of a higher institution of learning lacks vitality and fails to develop originality and creativeness in its students. To insure the development of research the Trustees will provide for it financially, not as is so often the case out of the residue that may be left after meeting the demands of the undergraduate work, but duly limiting the extent of this work and by setting apart in advance funds for research and graduate study.

"In order that the policies already stated may be made fully effective as quickly as possible and in order that the available funds may not be consumed merely by increase in the student body, it is the intention of the Trustees, as previously announced, to limit the registration of students at any period to that number which can be satisfactorily provided for with the facilities and funds available. As students are not admitted on the basis of priority of application, but of a careful study of the merits of the individual applicants, the limitation has the highly important result of giving a select body of students of more than ordinary ability. A standard of scholarship is also maintained which rapidly eliminates from the Institute those who from lack of ability or industry are not fitted to pursue its work to the best advantage.

"For the same reasons it is the intention of the Trustees not to allow the work of the Institute to be extended into new branches of science or engineering until all the existing departments are brought to the highest efficiency and until the needs of student life are more fully provided for. This is in accordance with the policy pursued from the beginning of the Institute of undertaking only a few lines of work and doing these well…The Trustees consider that it is of more immediate importance to increase the salary scale, the staffs of instruction, and the laboratory facilities…already established…so that the undergraduate instruction may be improved, graduate courses offered, and research actively prosecuted…"

Organization

The President of the Institute is elected by the Board of Trustees and is charged with the responsibility of administering the affairs of the Institute. The following officers are also approved by the Board of Trustees and are responsible to the President: Provost, Vice President for Business and Finance, Vice President for Development and Institute Relations, Vice President for Student Affairs, General Counsel, Treasurer, Controller, Secretary of the Board of Trustees, and various other officers.

The Provost is the principal academic officer of the Institute. The Provost, aided by the Vice Provosts, is responsible for the academic budget, faculty appointments, and promotions; acts as Dean of Faculty; serves as coordinator for curriculum development; acts for the President in his absence; and carries out such other academic duties as are assigned by the President.

The Vice President for Business and Finance is responsible for recommending and implementing policies concerning the Institute's business and financial operations.

The Vice President for Development and Institute Relations is responsible for the staff functions involved in fundraising, establishing and maintaining relations with the Alumni Association and the Associates, and related matters. The Vice President for Student Affairs is responsible for the various student administrative services and oversees the operation and organization of the student activities of the Institute. The Secretary of the Board of Trustees maintains the records of the Board of Trustees and performs such other duties as are directed by the Board.

Further information regarding the Board of Trustees and its committees and officers will be found in the Bylaws of the Corporation, available from the Secretary of the Board of Trustees.

For the work of instruction and research, the Institute is organized in six divisions, each under its own chair—the Division of Biology; the Division of Chemistry and Chemical Engineering; the Division of Engineering and Applied Science; the Division of Geological and Planetary Sciences; the Division of the Humanities and Social Sciences; and the Division of Physics, Mathematics and Astronomy.

The Institute Administrative Council is composed of the principal academic and administrative officers of the Institute—the President, the Provost, the Vice President for Business and Finance, the Vice President for Development and Institute Relations, the Vice President for Student Affairs, the Vice President and Director of the Jet Propulsion Laboratory, the Division Chairs, the General Counsel, the Vice Provosts, the Chair of the Faculty, the Associate Vice President for Human Resources, the Director of Government Relations, and others at the request of the President. The Institute Academic Council (IACC) is composed of the principal academic officers of the Institute—the President, the Provost, and the Division Chairs. The IACC is the Institute body charged with reviewing and approving academic appointments, as well as the policies that guide the Institute's academic affairs.

Off-Campus Facilities

The Jet Propulsion Laboratory is a federally funded research and development center (FFRDC) owned by the National Aeronautics and Space Administration, and operated as a division of Caltech through a contract between NASA and Caltech, sometimes referred to as the Prime Contract. JPL's primary mission is to conduct challenging robotic space missions to explore our solar system, to increase knowledge of our planet and the universe, and to pave the way for human space exploration. JPL is headed by a Director who is a Caltech Vice President and responsible to the President of the Institute for the management of the Laboratory.

Astronomical observatories are operated by the Division of Physics, Mathematics and Astronomy: Palomar Observatory, San Diego County; Owens Valley Radio Observatory, Big Pine; Submillimeter Observatory, Mauna Kea, Hawaii; W. M. Keck Observatories, Mauna Kea, Hawaii (operated in cooperation with the University of California) and the Laser Interferometer Gravitational-Wave Observatory (LIGO) at Livingston, Louisiana and Richland, Washington (operated jointly with M.I.T.). The Biology Division operates the William G. Kerckhoff Marine Laboratory in Corona del Mar.