

From the News Service
Mass. Institute of Technology
Cambridge 39, Massachusetts

For Release in SUNDAY Papers
Of June 7, 1953

Seniors at the Massachusetts Institute of Technology are this week completing the individual research and design problems -- ranging from building a sports car to studying an obscure French novel by Proust -- which are part of the requirements for the diplomas they will get at M.I.T.'s commencement exercises on June 12.

The senior projects for 1953 cover every field of scientific and engineering knowledge represented at M.I.T., and some spread over into the humanities. All involve laboratory or library research, design, or field or theoretical investigations. Although each thesis represents original work so far as the student is concerned, it need not constitute an original contribution to knowledge. In this respect the seniors' theses contrast sharply with the projects expected of M.I.T. graduate students.

"The undergraduate thesis has always been a vital part of education at M.I.T.," says Professor John A. Hrones, chairman of the Faculty Committee on Undergraduate Policy. "It can offer an opportunity for student initiative and development which will serve as a springboard for entrance into professional life."

(more)

Senior
Theses

The senior thesis requirement appears in M.I.T.'s first catalogue published in 1865. It was suspended by some departments during World War II because of shortages in the materials needed for scientific research and development work. This year for the first time since then the thesis requirement has been reinstated throughout the Institute.

Students select their thesis subjects with the help of faculty advisers, and they consult these advisers often as their projects develop. But, say the instructions to students issued by the Committee on Undergraduate Policy, "you should come to your advisers with a well formulated question or plan of action. The initiative is yours throughout the project; you are in charge of this job yourself."

Daniel C. Matuzewitz, an M.I.T. senior of 341 Oninta Avenue, Mamaroneck, New York, has written a thesis on Marcel Proust's recently-discovered novel, "Jean Santeuil." The work is believed to be a biographical novel, and Matuzewitz's purpose is to show its relationship to Proust's life and his other works. Though his major is in M.I.T.'s course in general science, Matuzewitz had as his thesis adviser Professor William N. Locke, head of the Department of Modern Languages.

George D. Cheney of Saxtons River, Vermont, and Carle C. Conway, III, of 441 Cloverleaf Way, Monrovia, California, both majors in mechanical engineering, have combined forces to design and build a competition sports car as their senior thesis project. They constructed a plastic automobile body which is mounted on a specially built frame, and they have modified other automotive parts for use in the car. Their thesis adviser is Professor John E. Arnold of the Mechanical Engineering Department.

(more)

Other theses in mechanical engineering cover a wide range of topics:

"Design of a centrifugal pump for a demonstration of similitude," by Miloslav Benicek of 460 Beacon Street, Boston, Massachusetts.

"Mechanical properties of titanium," by William Caldwell, Jr., of 39 New Ocean Street, Swampscott, Massachusetts, and Elmo I. Pacini of 1296A Massachusetts Avenue, Arlington, Massachusetts.

"Design and construction of an electrical analogue computer board for solving a heat transfer problem," by Robert J. Ferran of 67-10 43rd Avenue, Woodside, Long Island, New York, and Edward S. Hickey of 23 Oak Street, Belmont, Massachusetts.

"Cold drawing of stainless steel," by James H. Howard, Jr., of 3 Locust Street, Cambridge, Massachusetts.

"Design of certain handling equipment for the oyster industry," by James K. Nelson of Elm Street, Madison, Connecticut.

"The importance of the structure and properties of a textile as they affect retail sales," by Max Michel of 16 Cordoba, Mexico, D. F.

Jean Pierre Radley of 525 Park Avenue, New York, New York, a major in M.I.T.'s Department of Business and Engineering Administration, has studied the perception of synthetic speech sounds as produced on a vowel synthesizer built in the M.I.T. Acoustics Laboratory. A large part of his work has concerned the psychology of speech perception, and he has had the advice of Professors Morris Halle and Walter A. Rosenblith of the Departments of Modern Languages and Electrical Engineering, respectively.

(more)

John D. Riddell, an M.I.T. senior of 717 University Street, Salina, Kansas, has performed his senior thesis project as a part of the research program on plastic materials sponsored at M.I.T. by several members of the Manufacturing Chemists' Association, Inc. He has used the universal plastics testing machine developed at M.I.T. for a special study of the twisting and bending properties of plastic materials. His adviser was Professor A. G. H. Dietz, head of the plastics research project.

Louis de Branges, III, of Upper Gulph Road, Wayne, Pennsylvania, whose major is mathematics, has developed a proposed electromagnetic theory from an abstract approach. His adviser, Dr. Joseph H. Sampson, Jr., instructor in the department, believes that de Branges' results are compatible with the more conventional electromagnetic theories developed by the Scotch scientist James Clerk Maxwell from physical studies in the 1870's.

The Committee on Undergraduate Policy tells M.I.T. students that "your thesis gives you a chance to show what you can do on your own with a genuine man-sized problem in the field you have chosen. You will be using your education to do a piece of real professional work, and you will be judged as the practicing engineer or architect or surgeon is judged - by how well you can do one complete job."

Students are advised to "choose a problem that seems alive and important to you, preferably one that has arisen in your own thinking in the field closest to your particular interests. Make the problem small enough so that you can do a good thorough job in the time you can afford to spend."

(more)

M.I.T.'s first catalogue, in 1865, announced that every student in order to qualify for a diploma must "prepare a dissertation on some subject included in the course of study, or submit an original report upon some machine or work of engineering, or some mine or mineral survey, or scientific investigation, which shall be approved by the Faculty." Today the catalogue says simply, "The ability of the student to perform original research is considered an important feature of his degree requirements, and theses are required in all course schedules."