Course II seeks improved image

By David Olive

One of the most difficult and frustrating tasks for freshmen — and for instructors alike — of what mechanical engineering is a profession really all about and of the multitude of exciting things that mechanical engineers do.

This concern, about a misunderstanding of the field of mechanical engineering, was expressed by Ascher Shapiro, Chairman of the MIT MIE Department, in his annual report for 1972-73.

MIT has been rated by the American Council of Education as having the best mechanical engineering department in the country, an evaluation which was reinforced in interviews with the faculty, students and administration in Course II.

Shapiro explained that "at MIT we try to provide the groundwork for a career as a professional but we do not try to compete with industry, for their area is different. What we do is provide training that is far more important than classroom learning. Nevertheless, the student has the strongest possible background.

"The requirements have been developed to give the students an understanding of the concepts needed for advanced work in the field and, at the same time, to expose the student to the many disciplines in mechanical engineering.

"The faculty of the department concern about undergraduates members of the department, in the department's cooperation, inasmuch as our grades seem to have suffered badly. The number of offers received may be less and the salaries not at high, but nevertheless our graduates get jobs and good ones. Within the department there is a strong emphasis on quality teaching. Each year, at the end of the academic year, student advisory Faculty, Pi Tau Sigma, conducts a survey of student rating courses in mechanical engineering. The survey is similar to the Institute wide course evaluations, however, because the students have the department's cooperation they are able to go into classrooms and take class time to conduct the survey. This gives them a return rate near 100%.

All courses and professors are evaluated and the final ratings, including individual comments, are presented to the chairman of the department. The material is then reviewed by the graduate students and each faculty member receives his personal ratings and his ratings relative to the other members of the department.

"For example," explained Shapiro, "if I told you a professor's over-all teaching was rated by his students, to be a 5.3 on a scale of 7, you might think that it was pretty good. But if you look at this (a chart) you will see that a 5.3 is in the lower fifty percent." Shapiro stated that the scores and relative standings of the professors is important both in terms of making someone a better teacher and in terms of promotion within the department.

One drawback to this system is that the results are not shown to the students. Though there are pros and cons to doing so, and optimally the students should know how their peers feel about various courses and professors.

A strong attempt on the part of the department to make the courses interesting. During the spring of 1973 the faculty of Course II gave a course in water, which was presented to students in 2.67 (Urban Laboratory in Mechanical Engineering) last year designed a "people-waterer." to connect the new UMass campus with the MIT's new 2.70 (Engineering Synthesis and Design) students designed, built, and raced mouse-trap powered vehicles. The winner was the only woman registered for the course and the compiler in the national LeMouse 500 in Chicago.

Other courses examined ways of improving household trash disposals (2.73), the physiological role of clothing (2.915), and the fields of pollution and consumer protection (2.672). White integraled Prof. Roger Kaufman, we got to play with one of the toys used in 2.101, Computer Models of Physical and Engineering Systems.

The course is interesting; the professors are concerned. The department's national reputation is excellent and MIT students do not have trouble getting jobs even after getting into graduate school. There is no advantage or disadvantage when applying to MIT's graduate school. The national average of the 213 graduate students presently enrolled is MIT grad President Roger Kaufman demonstrates the utilization of paper clips as a di esel model of a continuous system — a suspension bridge.