IAP meetings focus on education reform
Forum considers engineering reform

By Jeffrey C. Gaslow
To provide a good engineering education, MIT must make some substantial changes in curricula, President Paul E. Gray ’54 said yesterday. "What makes a Good Engineering Education?" the Commission on Engineering Education and Society program sponsored the discussion.

President Paul E. Gray ’54 discusses the merits and frustrations of an MIT education yesterday during an IAP seminar.

Pressure causes "firehose"

By Ben Stanger
President Paul E. Gray ’54 and other faculty and students unanimously agreed yesterday that "getting an education at MIT is like drinking from a firehose." There is a paradox to MIT’s "boot-camp syndrome," in which sloth represents the "cardinal sin," Gray said. This paradox concerns both ressentment and pride.

Much of MIT’s fast pace is self-imposed and driven by "the nature of the community," Gray explained. "There’s a paradox. to MIT’s culture, so everyone’s involved," he said. "Nobody’s blamed the faculty for most of it. The faculty are part of the culture and the students are part of the culture, so everyone’s implicated," Rich Cowan G concluded.

New degree combines fields

By Katie Schwartz
MIT should produce graduates "capable of going beyond the limitations of a mere technical education," said Professor Leo Marx. "What it means to be an engineer has changed in the last thirty years," Marx said. Professor James R. Munkres, chairman of the Committee on Integrated Studies, also agreed. "The culture is set by the upperclassmen," said Samuel Jay Keyser, professor of philosophy and associate provost.

New degree program at the beginning of the freshman year, and emerge with "dual competency" in both a technical field and a humanities field. Many of today’s problems — such as acid rain and arms control — involve both technical and social issues, he explained, and MIT students, he said, can deal with them if "something is taught in class.

There is a need for the proposed new program because the present joint degree in Humanities and Engineering or XXI-E (Courses 15.01/5.02 or XXI-S) do not provide enough exposure for all students, according to Marx. Students majoring in the broader education at Harvard and Stanford do not attend because the institution’s offerings are not enough.

Engineers’ educational needs are now much greater than in the past, he said, for engineering concerns have broadened. Student Pugwash and the Science, Technology and Society Program sponsored the discussion.

President E. G. Warren praised the students who qualify for MIT but do not attend because the Institute’s offerings are not enough.

By contrast, Marx sees the integrated college as a "truly hospitable environment" which would make students feel "privileged, specially endorsed, highly encouraged." The 100 to 150 students per class that Marx hopes to attract would share a core of required courses, including a freshmen subject (Physics I (8.01) and other freshmen physics courses) and upper-level "bridge" seminars, and environmental issues surrounding technical developments, according to Marx.

The commission expects to produce a preliminary report with recommendations by May. It is divided into three subgroups, with Professor John I. Good, associate provost, in charge of the Institute core, engineering curricula, and Institute environment. "What we teach our students today is not very different from what L. Stroud, director of the MIT Science, Technology and Society Program, said in 1970," and Professor John Fay, director of the Bachelor of Science in Engineering Education Program sponsored the discussion.

"What it means to be an engineer has changed in the last thirty to forty years," Gray said. For instance, transportation engineers in the past were concerned only with building roads, he explained. Now they must also examine the effects of construction on "the environment and society." Jack L. Kerberk, chairman of the Commission on Engineering Undergraduate Education and associate dean of the School of Engineering, said that "the major issue is the learning environment at MIT, not the content of the education."

The commission, formed last September, has developed a preliminary definition of goals for engineering education at MIT. About six programs, in which students with understanding of the "economic, political, social, and environmental issues associated with building roads" are now much greater than in the past, he said, for engineering concerns have broadened. Student Pugwash and the Science, Technology and Society Program sponsored the discussion.

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