

Fall 1980

## Dimensions Fall 1980

Iowa State University Department of Mechanical Engineering

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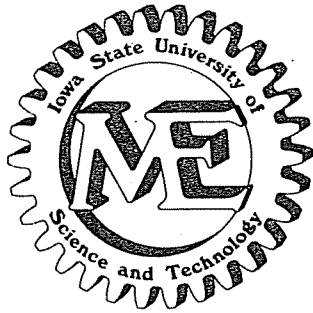
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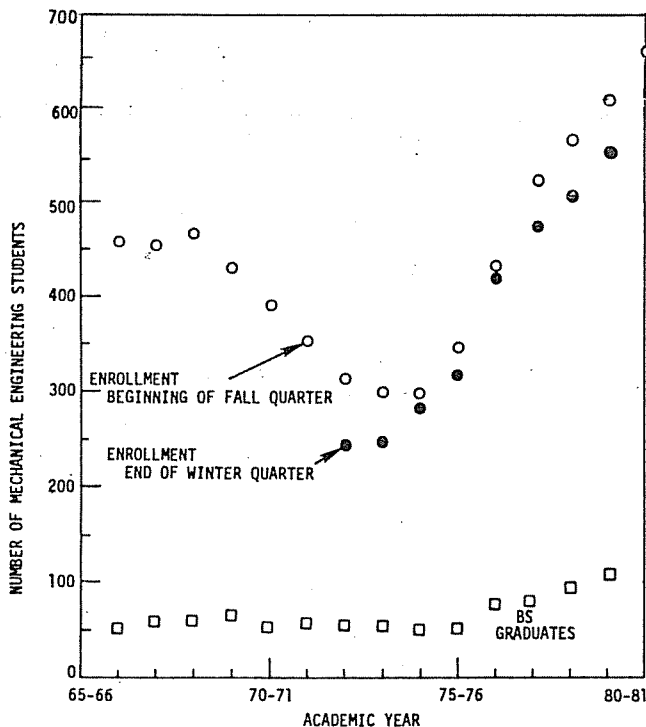
# NEWSLETTER

## Department of Mechanical Engineering

SEPTEMBER 2, 1980

### ENROLLMENT UP - ANOTHER RECORD

Contrary to predictions, enrollment continues to increase. This is particularly true for the College of Engineering which will account for some 60 percent of the total University enrollment increase at the beginning of Fall Quarter 1980. Undergraduate enrollment statistics for the past 15 years are depicted below.



UNDERGRADUATE ENROLLMENT TRENDS IN MECHANICAL ENGINEERING, 1966 - 1981.

The estimated total undergraduate enrollment for Fall Quarter 1980 is the largest enrollment in the 109-year history of the department. A study of new admissions to the department, based on June 1 Undergraduate Admissions Reports issued by the Admissions Office, indicates that a substantial portion of the enrollment increase is in non-resident students. Over 46 percent of the ME Freshmen are from other states or foreign countries.

With limited facilities--faculty, laboratories, equipment and classrooms--the department has not been able to offer enough sections of each course to meet the demand. This is resulting in delayed graduation for some students. Already in 1977-78 only 33% of the Engineering graduates completed their studies in 12 quarters or less, a sharp drop from the 45% figure of 1973-74. In an effort to more efficiently accommodate the record enrollment, a departmental enrollment management plan has been developed. The plan, described in the second section of this Newsletter, is effective with the beginning of Fall Quarter 1980.

### FACULTY AND STAFF NOTES

Dr. Arthur E. Bergles has returned as Professor and Chairman after a one-year Leave at the Institute of Process Engineering, University of Hannover, Hannover, West Germany. He was the recipient of a U.S. Senior Scientist Award of the Alexander von Humboldt Foundation of the Federal Republic of Germany. Dr. Bergles conducted research on heat transfer, including experimental studies of enhanced thin-film evaporation. In addition to a series of lectures in Hannover, he lectured (in German) at universities and industrial organizations throughout Germany. Lectures were also presented in Belgium, Denmark, Poland, Portugal, and Turkey. As U.S. representative (American Institute of Chemical Engineers) to the Assembly for International Heat Transfer Conferences, Dr. Bergles was involved in planning of the next conference to be held in Munich, Germany, in 1982.

Prof. Robert C. Fellingner, Acting Chairman for 1979-80, resumes responsibilities as division leader of Thermodynamics and Energy Utilization. Prof. William J. Cook served as division leader during the past year.

Dr. Ron M. Nelson has been appointed Assistant Professor of Mechanical Engineering effective September 1, 1980. Dr. Nelson received his B.S. and M.S. degrees in Mechanical Engineering from Iowa State in 1970 and 1972, respectively. He served as a university professor with the Peace Corps in Ecuador from 1972 until 1975 teaching (in Spanish) and designing heat transfer laboratories. He returned to the U.S. in 1975 to enroll at Stanford University for doctoral studies in Mechanical

Engineering, including dissertation research on the electrical effects of coal slag in a diffuse-mode MHD generator. Prof. Nelson was awarded the Ph.D. degree by Stanford University this past summer. He will be teaching in the thermal sciences area and his future research interests include renewable energy production, transfer, and storage. We are pleased to have Prof. Nelson, his wife Dianna, and their three children join us.

Mr. Jeffrey L. Balvanz has been appointed temporary Instructor in the department. Mr. Balvanz received his B.S. (1978) and M.S. (1980) degrees in Mechanical Engineering from Iowa State. He worked as an undergraduate research assistant in 1977 and 1978 and as a graduate research assistant from 1978 through 1980. Mr. Balvanz will be teaching the service course in thermodynamics as well as measurements and instrumentation laboratories.

Mr. Gary L. Reynolds has been reappointed as a temporary Instructor in the department. Mr. Reynolds received the B.S. degree in Engineering Science from Iowa State in 1972. He was employed as an engineer in industry until he returned to Iowa State in 1977 for graduate study in Mechanical Engineering. Since his return he has been associated with the Building Energy Utilization Laboratory. He received his M.S. in Mechanical Engineering in 1979 and has been working toward the Ph.D. Mr. Reynolds has taught several courses in the department and has been active in the Class A Energy Audit programs. He will be teaching courses in the Thermodynamics and Energy Utilization Division.

Ms. Carla J. Holbrook has recently joined the department's secretarial staff. Carla previously worked for the Department of Botany at Iowa State. Her position is primarily associated with the Engineering Research Institute.

### PROFESSOR OF THE YEAR

Last spring, Prof. George H. Junkhan was selected by the seniors as "Professor of the Year" in Mechanical Engineering. This award is made in recognition of excellence in instruction, with consideration of concerns for the individual student's interests, and interactions with students outside the classroom.

Previous recipients have been J. R. Baumgarten, W. J. Cook, R. C. Fellinger, and T. H. Okiishi.

### KENNETH L. EVANS AWARD

Steven R. Ebers was selected as the 22nd recipient of the Kenneth L. Evans Memorial Award. Kenneth L. Evans was a student in Mechanical Engineering who was killed in an automobile accident on March 26, 1959, two months before he would have completed his college work.

Pi Tau Sigma perpetuates the memory of Ken Evans by annually naming an upperclassman in Mechanical Engineering to receive this award. The basis for selection is good scholarship, character and a demonstrated leadership as a student at Iowa State University.

A plaque is posted in Room 213 with the names of the previous winners.

### HOLLIS R. HILSTROM MACHINE DESIGN AWARD

Betsy D. Morgan, B.S.M.E. May 1979, received the 2nd Annual Hollis R. Hilstrom Machine Design Award. This award is presented to the senior who, in the judgment of the professors who teach the senior design courses, has submitted the best design. The winner receives a \$300 award.

### ALICE R. BLACK FUND FOR THE PERFORMING ARTS

In August 1979, Alice R. Black established the Alice Redington Black Fund for the Performing Arts "to introduce undergraduate students in Mechanical Engineering to the Performing Arts." Two tickets were awarded to students indicating an interest for 23 events last year.

A tentative list of 1980-81 events and details on how to "put your name in the hat" are posted on the bulletin board outside Room 205, M.E. Bldg.

### QUARTER/SEMESTER TRANSITION

Iowa State University will switch to the semester system in the fall of 1981. All undergraduate students enrolled Fall 1980 will be required to complete a form during preclassification for winter quarter listing the courses they plan to take Spring Quarter 1981 through Spring Semester 1982. Material is posted on the bulletin board outside Room 104A, M.E. Bldg., to assist you in planning this transition. Additional material will be available before September 29, 1980.

### INGERSOLL-RAND PUBLICATIONS

The Ingersoll-Rand Company, Woodcliff Lake, N.J., has made available to junior and senior mechanical engineering students complimentary copies of "Compressed Air and Gas Data" and "Cameron Hydraulic Data."

Undergraduate mechanical engineering students who will be graduated by December 1980 and have not received their copies should pick them up outside Room 107, M.E. Bldg., by September 12, 1980; those who will be graduated by March 1981, by September 19, 1980. Those who will be graduated by June 1981 should pick up their copies, if supply lasts, by September 26, 1980.

### STUDENT TECHNICAL SOCIETIES

ASME and SAE, two technical organizations in the department, sponsor technical seminars, field trips, technical paper contests, along with social events.

Faculty advisors are:

ASME - Howard N. Shapiro  
SAE - Leo C. Peters

Details on officers, scheduled events, and how to join are available from the faculty advisors or on the bulletin boards (ASME, outside Room 210, M.E. Bldg.; SAE, outside Room 310, M.E. Bldg.).