

MICHIGAN STATE UNIVERSITY - OAKLAND

NEWSLETTER

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"If winter comes, can spring be far behind?" As this issue of the NEWSLETTER goes to press, we are almost snowed in by the worst storm of the winter--and spring is less than a week away! The snow really emphasizes the beauty of Meadow Brook Campus, presenting a spectacular background against which students will enjoy one of the most scenic cultural centers in America. Only a little imagination is required to see future winter sports enthusiasts on these breathtaking "snowscapes."

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OUR NEW CHANCELLOR: Durward B. Varner is a native of Texas, where he spent all his early life in the open cattle country. He graduated from Texas A & M in 1940, spent 6½ years in the U S Army, then took graduate work at the University of Chicago. After Chancellor Varner joined the Michigan State University Faculty in 1949, he became, in succession, Director of Cooperative Extension, Director of Continuing Education and Vice-President for Off-Campus Education. In January '59, ten years after his entrance on the MSU scene, he was selected to guide the development of one of the most exciting educational adventures in America--the creation of a totally new institution, MSUO. His leadership is important to all of us.

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BUILDING CONSTRUCTION: The main academic building, located on Walton Blvd., is 80% completed. This two-unit structure contains classrooms, lecture halls, offices, laboratories and a library. We expect to move into the offices by 15 June. The Student Center is scheduled to open by 1 September. It has a cafeteria, dining areas, lounges and recreation facilities.

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BUS SCHEDULES: Numerous questions have been raised regarding the possibility of bus transportation to the Meadow Brook Campus. In this regard, as soon as definite locations of student concentrations in Oakland and Macomb Counties are known, this information will be given to bus companies. We believe that they will then explore the business possibilities

of establishing schedules to and from our campus. A positive announcement concerning bus service will be made early this summer.

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CATALOG: Final revisions are being made to the 1959-60 catalog. As soon as the few remaining curriculum decisions are made, the catalog will be printed. Copies will be sent to all Oakland and Macomb County high schools, as well as to students already enrolled for the fall term. Persons on the NEWSLETTER mailing list will also receive copies.

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SCHOLARSHIPS: All information regarding scholarships may be obtained from the high schools. Interested students should contact their principal or counselor.

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HOUSING POLICY: This is now being finalized and will be released through various news media as soon as complete.

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THE CHARTER ROLE: A famous president remarked that men could worship as well in the forest as in church, but few would. Likewise, young people might learn from books without teachers, but few would. The opportunity for university education should be jealously guarded--because without it, America has little hope. Our Charter Class, by virtue of its pioneering role, can make this opportunity even greater in significance.

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MSUO SCHOLARSHIP POLICY

Scholarships will be awarded by the Committee on Scholarships, which is a group appointed by the Chancellor of the University. In the case of each candidate, detailed examination of the application and supporting credentials will be made by the Director of Admissions and Registrar; however, final selection will be the responsibility of the committee.

GENERAL

The criteria used for selection of candidates are (1) scholarship attainment, (2) financial need, (3) demonstrated citizenship and leadership and (4) participation in school and community activities. Specifically, criteria are as follows:

- (a) Scholastic attainment - A candidate must be a graduate of an accredited high school and rank in the upper one-fifth of the class with a minimum of a 'B' average in all academic subjects.
- (b) Financial need will be based on the factors recommended by the College Scholarship Service. Parents will be required to furnish a financial statement.
- (c) Qualities of citizenship, leadership and participation in school and community activities will be judged by the student's statements and the faculty's comments in the scholarship application.

Scholarship awards will not be made until the student has been admitted to the university.

Probation for any reason will be considered justifiable cause for the withdrawal of a scholarship.

MSUO ENTRANCE SCHOLARSHIP

A Michigan State University Oakland entrance scholarship will be provided for each high school in Macomb and Oakland Counties which has been approved by the Michigan Department of Public Instruction.

The entrance scholarships will be awarded for a period of one academic year and will be renewable throughout the 4-year course provided the recipient's performance merits it. The following point average must be maintained for renewal:

- (a) End of freshman year average: 2.6
- (b) End of sophomore year average: 2.8
- (c) End of junior year average: 3.0

OTHER SCHOLARSHIPS

The general criteria and rules outlined above will also apply to scholarships supported by private sources unless stipulated otherwise.

ENGINEERING SCIENCE AT MSUO

You may recall from a prior NEWSLETTER that one step in our curriculum development program involved four seminars in each of the academic areas to be offered. To refresh your memory, top seminar panelists were brought to the Meadow Brook Campus from many places in America for the purpose of presenting dynamic and exciting approaches to Engineering Science, Business Administration, Teacher Education and the Liberal Arts. This NEWSLETTER, which deals with Engineering Science, and the three to follow will report generally ideas emerging from the seminars. Bases for these presentations are the seminar reports prepared by Chancellor Varner and Vice-President Hamilton.

The six outstanding American engineering scientists, who converged on Meadow Brook to help us plan curricular guidelines, crashed into the problem "with no holds barred." They analyzed current problems in engineering education with the hope of identifying pitfalls--of establishing new directions and trends--of cooperatively evolving logical, reasonable and scientific guidelines. The guidelines which they recommended represent a unique design for engineering science--a design which will educate engineers for today and tomorrow, not yesterday. Consider carefully the following ideas which have been drawn at random from the "Varner-Hamilton Report."

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No one would question the tremendous concern which is felt in many quarters regarding the present state of engineering education in America. This criticism does not necessarily relate to any inadequacy of the programs in earlier years, nor does it refer to the nature of earlier activities. The great problem today is that the scientific world has moved with such tremendous rapidity into an area of almost unimaginable scope. This condition has created genuine need for new dimensions in the field of engineering education. Engineering today places tremendous demands on its people both as to the size of the engineering operation and the scope and range of disciplines which the engineer must comprehend. Not only must the engineer today understand engineering, but he must also be conversant in a large number of related disciplines. These demands make it essential that another approach to engineering be devised--an approach which will continue to provide a strong background in engineering, but will guarantee optimum background in the sciences and humanities as well.

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Because of today's dynamic and explosive world, it is necessary to educate three types of engineers: 1) the innovators and directors, 2) the applicators and 3) the technicians.

- 1) Innovators must be educated in such a way as to provide great depth and breadth of understanding, both in engineering and the disciplines related to engineering. They must be educated in such a way as to easily relate themselves with people of many varying backgrounds and status. They must be able to think in creative terms.
- 2) Applicators must be skilled in designing the machinery necessary to implement the innovator's ideas. The education for applicators is somewhat different than that for innovators. Loosely identified, one involves theoretical engineering, the other applied.
- 3) Technicians, of course, must be trained by junior colleges, community colleges and technical institutes.

MSUO will be concerned with educating innovators and directors primarily. This decision does not include an implication of comparative value. Rather, MSUO has decided that it can most logically present programs of education for the innovator or director.

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Any university offering programs of education for innovators and directors must restrict its engineering student body to candidates of high intellectual ability and capacity--to those who have a driving willingness to persevere toward the goals of engineering science. Students who are able to handle programs of this kind should be identified rather early, probably before the end of the sophomore year, and they should be provided programs commensurate with their ability and designed to lead them into desirable directions.

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Once the decision has been made to provide education for innovators, the next concern is: "Of what should this education consist?" In this regard, there is no solidarity of opinion because disagreement concerning academic content is widespread. However, one agreement is firm. There should be no emphasis on vocationalism. Technology should not be taught in a university. Technology is the responsibility of industry and business. Application of technology in the form of arts is not a function for the university.

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Generally speaking, engineering science must emphasize first the principles of science.

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Present engineering courses should be replaced by experiences in engineering science which ought to involve about 40% of the student's time. Secondly, universities must provide a far better education in the fields of physics, chemistry and math than has been the case heretofore. About 30% of the student's time should be spent in these fields. Finally, to allow for the development of the mature, educated man, about 30% of the student's time should be spent in the liberal arts.

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The kind of program recommended here will require a superior staff--a staff of the highest quality, having competence in both instruction and research.

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It should be noted here that this particular approach is not a panacea for all engineering education. This represents one approach vital in engineering science--but only one approach. Other kinds of engineering requiring other kinds of educational approaches are necessary. MSUO has chosen the course of theoretical engineering in the hope that it will be possible to provide real leadership in this field.

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The following specific quotations, which have meaning for the engineering science program, were recorded during the seminar:

PRESIDENT WALKER: Not many students will become project engineers. To us, it is essential to identify the superior student who can reach the top as early as possible and then to tailor a program which will meet the needs of the job to be done.

DEAN SODERBERG: Engineering science must provide wider vision than the present vocational training approach to engineering. We must draw intellectual experience from physical sciences, social sciences and humanities as well as from specific engineering subjects.

PRESIDENT DU BRIDGE: There are three significant trends in engineering education today which this new institution must take into account. These are:
1) Larger content areas which would include languages, humanities, literature and the social sciences. 2) Introduction of larger concepts in the basic science courses; techniques are not appropriately taught by the university, but scientific concepts are. 3) The growing recognition of the need for larger numbers of engineers on the graduate level, including the doctoral level.

We must provide the opportunity for education to a wide spectrum of students--at least 20 to 25 percent. This will result in a wide range of goals and abilities. Thus, you must determine how to develop a program to challenge the best and the others. You must develop a system so that each can get the most from the program. You must identify different degrees of intellectual ability and develop programs accordingly.

DR. HALL: First you must begin with a broad basic general education program, this to be followed by a graduate program.

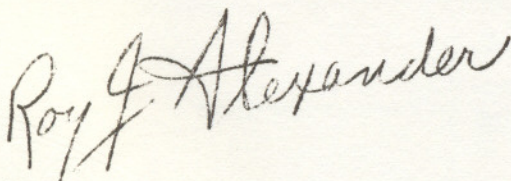
DEAN TERMAN: Your new program must be anchored to the future rather than the past. However, careful consideration must be given as to how far forward you are anchored. Do not let science become merely a service or step-child to the other programs. Don't allow your program to expand too rapidly. Do a relatively small number of items in the main stream, but do them well. With regard to the five-year curriculum, this is not much of an interest any more. Do the very best you can in four years. Education is a lifelong process.

DEAN RYDER: You should break away from the curriculum and program of the 1890s and provide degrees in engineering without department labels. Organize your program around scientific areas of subject matter. Insure a thorough grounding for your engineers in materials, energy and man.

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Engineering scientists are vital to our nation in these dynamic times. They must experience the best possible kind of education to meet the times.

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Next issue, we will attempt to draw guidelines from the Teacher Education Seminar!



Roy J. Alexander
Director of Student Services