

Pride in our Past Faith in our Future

1865-1965

The Jech Wews

WORCESTER POLYTECHNIC INSTITUTE

Worcester, Massachusetts, Friday, December 11, 1964

Number 12

The Engineers' Council for Professional Development announced recently that the engineering curricula followed by Worcester Polytechnic Institute has been reaccredited for the next six years. In a report issued to the President, the Council stated that the departments of Mechanical, Electrical, Civil and Chemical engineering have met minimum overall requirements and will be endorsed until 1970.

The ECPD grants all accreditations for limited periods with reappraisal stipulated at the end of a period. Accreditations are based on conditions as they are at the time of the visit and if for any reason the future appears precarious, or a definite weakness exists which should be strengthened, accreditation is granted ac-

In the report the administration was commended for its development of an in-depth and inwriting study of its long range plans for the Institute. The adninistration was also commended for the establishment of efetween the departments.

The staff in the humanities and social study areas were described the report as dedicated to providing a good background for the students in these areas and making conscientious efforts to serve the engineering curriculum within the constraints of allowed time.

The report emphasized the noteworthy achievements and advancements of the Electrical Engineering Department. In the words of the statement: "The major improvements made in the curriculum during the past five years deserve great commendation, and the department should be encouraged to carry out the experimental programs in exploratory curriculum development, such as solid state and direct energy conversion course developments."

The Council agreed that the chemical engineering curriculum appears to be well suited to the task of preparing young men either for useful careers in industry or for graduate study. It recommended, however that seriious consideration should be given to the possibility of reducing the average course load per student from six to five courses per ficient procedures for insuring term. The present requirements good information flow patterns in analytical chemistry and engineering graphics are heavier than necessary, according to the report.

(Continued on Page 6)

ASME Students At Convention

On Tuesday, December 1, the Worcester Tech student section meeting were read by the of the ASME left for a two-day stay in New York. The object of Phil Baker reported the findings the trip was to attend the Society's Annual Winter meeting the Freshman Course Evaluan Committee. At a recent meetand to gain an insight into some of the Faculty Subcommittee, of the new technical developmembers slightly favored ments being made in the field of ther dropping descriptive geo- Mechanical Engineering.

etry from the school curriculum A side trip was made to the postponing it to a later year. Ford Motor Company's Mahwah, freshman problem solving New Jersey, Assembly Plant. urse was suggested as a possible Here the students saw new Fords bstitution. Also discussed at the roll-off the assembly line at the meting was the idea of a new rate of fifty-two per hour.

Tuesday night, many of the Don Foley proposed the chang- members took in the cultural and educational highlights lech Senate minutes in the Tech York.

Wednesday morning found of the student body in Tech's those who were able to get out Wernment. President Mitschang of bed, at the Old Guard Papers entioned the idea of sending the Contest. Some of the entries ddents questionnaires through covered topics such as lasers, he Tech News. These question- pneumatic control systems, and hires will conclude many of the vibrations. This contest is sponsored by the ASME for winners of regional contests such as the Pat Moran announced that Pi one to be held here at Tech on Pi Sigma, the National Honor April 23-24, 1965.

At the Student Luncheon on Wednesday, Ronald B. Smith (a Al Low has received a letter speaker at Tech's Centennial m Clark University inviting Convocation) spoke on "Enginech to join Clark and other col- erring in the Contemporary Age."

ges in the Worcester area in That afternoon afforded the rming an area social council. This group a chance to attend techuncil would bring many of the nical sessions and listen to preentertainers to the school for sentations in such fields as benefit of its student bodies.

(Continued on Page 6)

C. GORDON WILLS \$5,000,000 TO W.P.I.

The largest gift in Worcester Tech's one-hundred year existence -\$5 million-has been bequeathed by George Crompton Gordon, an alumnus and lifelong benefactor of the college.

Mr. Gordon was born August 20, 1872, in Worcester. The youngest of three brothers, all W.P.I. graduates, he received his degree in electrical engineering in 1895. Apparently not a conscientious student in his early school years, Mr. Gordon evidently received the inspiration necessary to finally become enthusiastic about scholarship from Dr. Leonard P. Kinnicutt, head of the chemistry department. He remained close to Dr. Kinnicutt thereafter, and often made reference to him in later life as the professor who most influenced his life as a student.

During his four years at Tech, Mr. Gordon played baseball, ran cross-country, and was treasurer of his graduating class.

Showed Early Management Skill

As manager of the baseball team -at that time a club, solely dependent upon student interest and support-Mr. Gordon was the first person to ever make the activity



GEORGE C. GORDON

successful and financially solvent. The yearbook of the Class of 1895 mentions that students had supported the baseball team "neither with their money nor with their efforts. Under the efficient management of Mr. Gordon, interest in the game was thoroughly aroused, and the best team in the history of the Institute was developed."

Gift to Build Library and Endow Kinnicutt Professorship



THE GORDON LIBRARY

only a minor indication of the for completion in 1966. This libragreat financial genius which the ry will serve to perpetuate the man possessed and was soon to memory of Mr. Gordon for his demonstrate.

Upon graduation, he served as master mechanic at the American Steel and Wire Company; as chief P. Kinnicutt Professorship, in meengineer at Carpenter Steel Company, and from 1905 to 1910 as general superintendent of Wyman-Gordon Company. The latter was founded earlier by his brother, endowed professorship is often giv-Lyman F. Gordon.

Quick Climb to Success

In 1911, at the very beginning of the boom in the automobile industry, Mr. Gordon became vice president and general manager of the Park Drop Forge Company in Cleveland. He was elected president of the firm shortly after World War I and retained that position until 1953, when he became chairman of the board.

ment expert, Mr. Gordon was also meet the general financial needs an astute investor in small but of the school such as repairs and promising companies. Through wise investment and supervision, he was able to amass the fortune which he left, in part, to W.P.I.

In his later life, Mr. Gordon kept a summer retreat in Manchester, Vermont. He played golf regularly and held an interest in photography. He remained active in business until last year. He died May 27, 1964 at the age of ninety-one.

George C. Gordon Library

The college's east campus has been chosen as the site for the George C. Gordon Library. Ground for the \$1.8 million dollar structure will be broken in the spring This management capability was of 1965. The building is scheduled much nearer to reality.

great gift to education.

A part of the Gordon gift will also be used to endow the Leonard mory of the man whom Mr. Gordon held in such high esteem. Details of the Kinnicutt chair will be announced at a later date. An en to an outstanding professor on a long-term basis, and it is considered to be an important recognition to be selected for such a professorship. It may also be filled for a limited period by visiting professors renowned in their fields, or by an adjunct professor from industry.

The balance of the Gordon gift will be placed in the general edowment fund. This fund is an integral part of the college's fi-A financial genius and manage- nancial structure. It is used to maintenance, and is also used to hold down the cost of tuition to students and to provide scholarship aid. This keeps the cost of an education within the reach of any qualified student.

> The Ten Year Program of Worcester Tech has for its goal a sum of \$23.8 million, the first \$15 million will be collected within the first three years during the Centennial Fund Campaign. Mr. Gordon's gift of \$5 million and the earlier grant of \$1.7 million from the Harrington Foundation have set a promising place for the fund drive, and have made the dreams for the future Worcester Tech

Tech Senate

secretary, John Braun.

pe of freshman orientation.

of the format of presenting

News in order to arouse the inter-

mblems that come before the

ciety for Military Science, has

en dissolved.

The December 8th meeting of e Tech Senate was opened at 125 by President George Mitschang. The minutes of the pre-

h

Editorial

Student Attitudes

After sitting at this desk for nearly a year, we begin to wonder just what makes the Tech student tick-his interests and attitudes towards other than academic seem almost nonexistant. Why don't more students attend our sports events, take an interest in our dying clubs, our newspaper, or our the student government? Why do they avoid visiting lecturers and boycott Thursday's College Day Assemblies? Why?

Today's college students appear to be embroiled in an endless cycle of liquor, sex, and studies. Little else enters their niche. Including the Techman in this category, however, would be a compliment. Many of our students have cut the first two items from their cycle.

Certainly there is an amount of inherently difficult material to be mastered at a college like ours, and this material bers. A recent change in the By requires much of the student's time in fulfilling academic requirements. However, the problem is often doubled and members to be added. The chairtrebled by a faculty who thinks theirs is the only course which requires work, and schedules that course accordingly.

The majority of Tech students study only for the grade. They picture each perfect quiz as a penny or two raise in starting salary. The results of this attitude are student bickering about quiz and exam schedules and professors' grading systems, and also a growing problem with cheating.

Certainly there is more to education than the "realm of the physical and humanities." Equally as important are the social world and the arts of communication. True education and eventual success, we feel, will depend on the students' involvement in all four areas.

It seems logical that if something isn't done, our college will continue to pressure those in activities out of themafter all, they do "interfere with studies." To change student attitudes there must be a change in our environment. There must be a re-evaluation of the word "education." This change can come only from the faculty. It would be, and often is, a shame that four years are spent turning out a man who is only half educated.

We feel a part of the problem lies in a poor faculty-student relationship. They haven't met each other on a social level. There is no chance to discuss or evaluate our education. Fraternities, through dinners and receptions, are only minutely solving this problem. These social functions should be on a campus-wide basis.

Tonight's ball will be no exception to the rule. Few faculty members will attend; and many have already scheduled makeups for Saturday's missed classes. There is a definite lack of communication between students and their professors.

We suggest some planned campus-wide social functions where everyone can meet and talk things over. The physical aspect of these functions is no problem. The problem would be in attendance. Maybe we could offer the faculty \$1000 more a year, or the students a pair of Mickey Mouse Ears and a good grade on their next quiz.

D.S.S.

TECH NEWS

Faculty Advisor	THEODORE H. PACKARD
Editorial Staff:	
Managing Editors	PHILIP BACHELDER
	RONALD GREENE
News Editor	FUGENE DIONNE
Assistant News Editor	CHARLES DESIMONE
Feature Editor	
Sports Editors	ROBERT KLAUBER
	ROBERT HAWES
Make-up Editors	
	CARL HANSON
	GERALD MORRIS
Photography Editors	
Social Editor	ANDY MORAN
Business Staff:	ACCOUNT OF TAXABLE OF
Business Manager	RICHARD KENNEDY
Advertising Manager	THOMAS TRAFIDLO
Circulation Manager	WILLIAM NICKERSON
Circulation Manager	WILLIAM DOLBOW
	BEN SUROWIECKI

Junior Editors

GERRY CHAREST PETER KUDLESS CHRIS BRADBURY RUSS KOELSCH JACK KELLY

BILL BEHN RON NAVENTI GEORGE STEVENS DAN MAGUIRE TOM KELLEY

Subscription per school year, \$4.00; single copies, \$.15. Make all checks payable to Business Manager. Second-Class postage paid at Worcester, Mass. Editorial and business offices located in Daniels Hall, Worcester Polytechnic Institute, Worcester.

Chairman Describes **Board of Trustees**

Wayne Keith's Idea of Tech Image

sponsible to the community, to scientific and financial worlds, and to the students, for the policies, fiscal and otherwise, of Worcester Polytechnic Institute. To meet this responsibility, the Board of Trustees, in accordance with the By Laws, is composed of nine life members, fifteen term members from the alumni, and six ex-officio mem-Laws permits five "At Large" man of the group is Wayne Keith. Mr. Keith is the first chairman of the Board of Trustees to graduate from W.P.I. A member of Phi Gamma Delta, he graduated in 1922. He recently retired from his post as General Employment and Training Supervisor of the New England Telephone and Telegraph Company.

In a recent interview with the Tech News, Mr. Keith described some of the workings and viewpoints of the board. He mentioned that the Corporation leaves academic matters generally to the administration and faculty and consults only when basic policy of the Institute is at hand. Such a time would be the discussion of making Tech a five-year school, for example. Although not being currently discussed; in answer to Tech News' query, he said that the matter would need consideration again in the future. Such a major change, if decided upon, would require much advance planning. The basic policies of Worcester Tech are formulated by the Board and carried out through the administrative officers and faculty, headed by President Storke.

The Tech "Image"

The guiding concept of Worcester Polytechnic Institute, the 'image' of Tech, was interpreted for the Tech News by Mr. Keith. He felt that "W.P.I. is basically an undergraduate college with enough work being done to insure a superior faculty; and small enough and so situated as to provide a college campus life for the student." He emphasized the importance of "all professors having close teaching contacts with the students and the favorable ratio of faculty to students, which results in an intimate student faculty relationship."

Conservatism at W.P.I.

Another favorite topic "on the hill" is what some seem to feel is the conservative aspect of the administration. The Chairman felt that the Board of Trustees encompasses the spectrum, from

The Board of Trustees is re- cated several reasons for the Corporation's outlook. An important consideration is the lack of extensive endowment. Some larger schools can afford to make a million dollar experiment and fail, but the effects of something like that at W.P.I. could be catastrophic.

> Mr. Keith states "that there have been many forward looking changes introduced in curriculum and course content in recent years. Some of these changes may not be so apparent to a student who has been on the campus only two or three or four years." An expression of this conservatism, however, was Mr. Keiths attitude toward federal money in college. In pointing out the small propor-



WAYNE KEITH

tion of government money contributing to the annual income of Worcester Tech in relation to other schools, he indicated some reluctance to accept federal money and the controls associated with it. He added that "by comparison with some schools our own size we get our share of Federal money." Many of the larger institutions are conducting very large Federal research projects, hence their government income is quite large.

Blacktop Campus Discussed

The problem of a "blacktop campus" has clouded many students' minds on the Centennial Expansion. Mr. Keith said "the Board's objective in planning the proposed building projects is to maintain the aesthetic beauty of the campus." The new library is one in which it is expected that students will do much of their studying. This necessitates a central location in relation to the academic buildings and fraternity houses. Therefore the East Campus location.

Architectural sketches and models showed the building in a different light than visualized conservative to liberal, but indi- by many people around the cam-

pus. The proposed humanities building, however, is the principal cause of objection in most minds. Combined with a two-hundred car parking lot, it would virtually eliminate green along Boynton Street. The chairman emphasized that the location and design of this building is not definitely set and will not be until funds for it are secured.

Expansion of the campus has been cited as a possible answer to the dilemma. The fact that the school owns much of the land around it is well known. Correspondingly unknown are the problems and expenses involved in taking over this land for Tech's

Larger Endowment Needed

A study of the school's needs by a professional advisory group has indicated that an enlargement of the endowment is necessary. The chairman reflected that to keep student expenses (tuition and other fees) at a minimum, the current holdings of the Institute will have to be increased. This is especially crucial due to the planned increase in student population. However, he felt that to keep the college competitive with other schools of its type, increases in tuition may have to be expected.

The Development Committee has currently secured four million dollars for the expansion fund. Mr. Keith said that fund raising is a massive, organizational, solicitation and public relations job. You must sell the school, make charitable foundations feel that the scientific community, and the public, benefits greatly from Worcester Tech's existence. He showed the Tech News an illustrated brochure of Tech, giving financial details of the Centennial Program, which is sent to all possible donors.

The effectiveness of this public relations program led to the question of why the school is so little known to the general public. This led to a mutual realization that the Technical schools well known nationally are those with large graduate schools and substantial government research contracts. Mr. Keith feels that "Worcester Tech is pretty well known and thought of here in the eastern United States." He added that he felt general public relations work is, however, becoming more effective.

Being an alumnus of Tech, Mr. Keith keeps in close contact with the school through his fraternity, student interviews, and campus publications. He said he favored the Tech News editorial policy and was pleased to see student opinion freely expressed.

Kennedy Makes T. V. Debut



RAISE OR FREEZE ?

cember second and third, several members of the Mechanical Engineering Department attended the A.S.M.E. convention in New York City to see the Old Guard Papers Contest. The trip proved profitable in more than one way for two of the students who went.

set

has

the

ved

eds

to ion

sti-

hat

to

During a 'break' in the con-

Last Monday and Tuesday, De- | and one of the instructors went to see a quiz show, "The Price is Right." During the course of the show, Mike Cavanagh won an electric knife, a toaster, and about fifty dollars worth of small appliances. Dick Kennedy fared a little bit better-he was chosen as a contestant for the show on Monday morning, December 7.

In order to be in New York vention several of the students for the show, Dick left Sunday trip?

WHAT HAPPENED TO THE SLINKY?

By LLOYD GRAFF THE MICHIGAN DAILY Collegiate Press Service

A man with the hostile voice of a grouchy police sergeant boomed over the television airwaves a couple of nights ago. He was describing guns, tanks, bombs. Then he launched into a devious sentence about "destroying whole cities."

No, this wasn't a scenario from some Class C horror film; it was

afternoon and stayed in the city overnight. The actual contest consists of "bidding" the prices of certain objects which are offered as prizes. The prizes range from small items, such as table lamps, to cars and complete furniture sets. The contestant who guesses the closest to the actual price of the object wins. Dick made a few good guesses and came up with two table lamps, an extensive set of candles, and a complete dining room set, which added up to about a thousand dollars in prizes. Anyone else for a field

an advertisement for kids' toys. With the Christmas gift season quickly approaching, the toy makers are already making their pitch. Evidently war toys are really "going to sell like gangbusters" this year.

The anonymous announcer, in the most authoritarian tone he could muster, vividly pictured "Commando," a gift that can make any boy into a calculating killer. Plastic hand grenades come with this delightful toy which includes the traditional rifle and synthetic rubber bayonet.

Then there was another cute toy, lovingly called "Atomic War-

A second advertisement followed immediately, extolling the virtues of a toy which molds plastic weapons. You just drop in a wad of plastic, wait a minute, and presto, you have a Bazooka. Every home can become a simulated war plant.

Finally that police sergeant turned toy salesman ended a few unstained heroes, violence his message. He was followed by is about all that's left.

what first appeared to be an educational show for kids about the Wild West. It brought back marvelous memories of reading Landmark books about Wild Bill Hickok and Buffalo Bill.

But the host with the cherubic smile wasn't praising these heroes; he was debunking the legends of the West. Buffalo Bill was a drunken bum who was often so boozed up he couldn't sit upright in the saddle, he said. Wyatt Earp was never even a marshall in Wichita. He wrote a fictitious autobiography which made him famous. General Custer was a stupid dandy who delighted in scalping defenseless Indian child-

How could that man with the round angelic face do that to the kids who were watching him? They would grow up as cynics, looking for cracks in every hero who came along. They would probably never collect autographs again.

Maybe that's why war toys are the big sellers nowadays. Without



John Lauritzen wanted further knowledge



He's finding it at Western Electric

When the University of Nevada awarded John Lauritzen his B.S.E.E. in 1961, it was only the first big step in the learning program he envisions for himself. This led him to Western Electric. For WE agrees that ever-increasing knowledge is essential to the development of its engineers-and is helping John in furthering his education.

John attended one of Western Electric's three Graduate Engineering Training Centers and graduated with honors. Now, through the Company-paid Tuition Refund Plan, John is working toward his Master's in Industrial Management at Brooklyn Polytechnic Institute. He is currently a planning engineer developing test equipment for the Bell

System's revolutionary electronic telephone switching system.

If you set the highest standards for yourself, both educationally and professionally, we should talk. Western Electric's vast communications job as manufacturing unit of the Bell System provides many opportunities for fast-moving careers for electrical, mechanical and industrial engineers, as well as for physical science, liberal arts and business majors. Get your copy of the Western Electric Career Opportunities booklet from your Placement Officer. And be sure to arrange for an interview when the Bell System recruiting team visits your campus.

Western Electric Manufacturing and supply unit of the Bell System



ELECTRICAL ENGINEERS PHYSICISTS

MATHEMATICIANS

Technical representatives of the MITRE Corporation will be conducting interviews on campus December 18, 1964

MITRE is chief technical advisor and systems engineer to the Air Force Electronic Systems Division of the Air Force Systems Command. In this capacity, we design and develop such global, computer-based systems as the NORAD Combat Operations Center, Back-Up Interceptor Control System, and the Nuclear Detonation Detection and Reporting System. Other commitments: development of a future air traffic control system and supporting the Defense Communications Agency in the development of the National Military Command System.

For the young systems engineer, this is uniquely rewarding work. You associate with the top men in your field. You work in an atmosphere that allows you to extend your capabilities professionally and academically.

At MITRE, men trained in single disciplines are encouraged to grow beyond their original fields of interest. Systems designers learn to work from an increasingly broad base.

You may work in such diverse areas as information theory, computer design, display techniques, propagation, or human engineering. You may analyze, You may synthesize. You may deal with systems or individual components. At the highest levels, you may have to consider political, economic and social factors . . . as well as the available and predictable technology.

Requirements: M.S., or Ph.D. in these disciplines - electronics, physics, mathematics. MITRE is located in pleasant, suburban Boston and also has facilities in Washington, D. C. and Colorado Springs. If an interview will be inconvenient, inquiries may be directed in confidence to Vice President - Technical Operations, The MITRE Corporation, Box 208, Dept. 000, Bedford, Mass.

ARRANGE FOR AN INTERVIEW THROUGH THE PLACEMENT OFFICE.



An Equal Opportunity Employer

Pioneer in the design and development of command and control systems, MITRE was chartered in 1958 to serve only the United State Government. An independent nonprofit corporation, MITRE is technical advisor and systems engineer for the Electronic Systems Division of the Air Force Systems Command, and also serves the Department of Defense, and the Federal Aviation

Principal manufacturing locations in 13 cities Operating centers in many of these same cities plus 36 others throughout the U.S. Engineering Research Center, Princeton, N.J. ETFeletype Goro, Skokie, III. Little Rock, Ark General Hoadquarters, New York City

What Makes College Students Turn Inward?

by H. NEIL BERKSON Collegiate Press Service

If one characteristic defines today's college student, it is his increasing tendency to turn inward.

To examine this event from a historical perspective is perhaps senseless. The structure of higher education has changed radically; the numbers involved take the heart out of any concept of an academic community. Specialization and quantity place the contemporary student in a position foreign to his predecessors.

To examine it in a sociological context is to presuppose differences which do not exist. The student is not in a unique situation. Rather, he is manifesting a symptom rampant in society. Everyone seems to be more and more concerned with less and

Nevertheless, we have always expected more from education, went to college for purely "social"

and we have a right to wonder what is happening. We have a right to wonder why we have little compassion, little desire for an awareness and understanding of the human problems which surround us.

Everyone has their own bogeyman; mine is the "system." I find neither concrete sources for the blame, nor do I see any remedies, but it is clear that the majority of college students today are looking merely for a resting place between the time high school graduation ends and responsibility

Proof? Educational Testing Service happened to produce convincing evidence of this development recently. In a comprehensive survey of 13,000 freshmen at 26 private and public universities and colleges they found the following to be true:

-A staggering 50.5 per cent

reasons;

-Another 26.5 per cent for purely "vocational" reasons;

-18.5 per cent for "intellectual" reasons:

-4 per cent wanted to "rebel." Nearly 80 per cent, in other words, had no interest in a liberal education as freshmen. They were in college for the wrong reasons.

Nor is that figure likely to decrease once students have been through the University. Two pressures here are simply too

The first is toward conformity and relates, I suspect, to the 50 per cent of the student body here for social reasons. The University is loaded with all kinds of status symbols-the"wise" student will quickly learn to do homage to those symbols. He will conform to middle-class values both inside and outside the classroom.

The second pressure is primarily one of time. Both society and the University are demanding too much every single day. The more I study the learning process, the more I am convinced it must go at its own pace. EduJOB OBSOLESCENCE OUTLINED BY EXPERT

By LAURA GODOFSKY Collegiate Press Service

WASHINGTON (CPS) - If you are near graduation, you can expect to make at least seven job changes in your working life.

You can also expect half of what you are now learning to be obsolete in five years if you are studying physics, in ten years if you are studying engineering, and in fifteen years if you are studying law. Further, in some of the physical

cation cannot be measured by X credits, Y semesters, Z years.

As long as the pressures reign, students will continue to reflect only on themselves. Concern for their security and a deep fear of failure must necessarily combine to produce deadening apathy.

Menacing forces in society threaten the existence of all of us, but, ironically, our pre-concern for ourselves may keep us from recognizing these forces.

sciences, half of what you will need to know in the next ten years hasn't been discovered yet. This picture of rapidly changing job requirements was outlined by an extension dean and a labor department official recently.

Any student who specializes in the face of such a fluid occupational outlook is making a serious mistake, according to Seymour Wolfbein, a top Labor Department employment expert.

In a CPS interview, Wolfbein advised students to delay their majors as long as possible. Students should take many different courses in order to be able to cope with a variety of jobs, Wolfbein said.

The main occupational challenge for students who will be entering the professions will be keeping up to date with new developments,

Those with outmoded knowledge will find themselves behind as recent graduates or college returnees get pay raises and promotions.

A recent Labor Department study illustrated the premium put on new knowledge. Physicists with recent BA's were found to be better paid than those with older PhD's.

Life-long education will be needed to avoid obsolescence in the professions, said Paul Sheats, dean of extension at the University of California. Echoing Wolfbein's views, he said that nearly one out of every eight workers is now a professional person, and that the average amount of education for these workers has risen to 17 years.

The average educational attainment in the entire American working force now exceeds high school graduation, Wolfbein added.

OLYMPIC RIFLE TEAM VISITS CAMPUS

Two members of the "All Army" rifle team visited the Tech Campus for two days this week. Lieutenant Smith and Sergeant Landry of the 1st Army from Fort Dix, New Jersey are participating in the army's program to help develop better national marksmen and assist coaches in guidance of their rifle teams.

This program, although mainly for R.O.T.C. cadets, is not restricted to R.O.T.C. participants. Most of the instruction is done with small bore rifles. Each year six teams from colleges from Maine to New Jersey are selected in a "shoot off" held at West Point. These teams receive a solid week of instruction from the members of this Advanced Marksmanship Unit. Final selection of the six teams is made from the fifty schools cooperating in the program.

Good marksmen in the R.O.T.C. program can apply for the Marksmanship Training Unit while in the army, and have participation in rifle competition and instruction as their sole duty. While representing the 1st Army in competition, these men have the opportunity to be selected for the "All Army" team. The international squad which represents the United States in the Olympics, in turn draws many of its members from the "All Army" team.

The Tech Rifle Team has a three-way match this weeking with Coast Guard and Brown to put their newly acquired knowledge to good use. In previous matches, Northeastern beat Tech 1280 to 1260 and W.P.I. bettered Boston University by 137 points.



See the Fair in '65

What's your career sphere at Sikorsky Aircraft?

There's a thrilling new perspective of the World's Fair, when viewed from the vantage point of this Sikorsky S-61N. These aerial tours demonstrate vividly the adaptability of Sikorsky VTOL aircraft to wide-ranging transportation

But let's take the larger view of Sikorsky in action-and what it can mean to you in terms of a rewarding career.

Sikorsky Aircraft is the pioneer and leading producer of VTOL aircraft. We believe that our exciting programsaimed far ahead into the future-can provide an ideal environment for young engineers who want to grow with a dynamic industry.

The Sikorsky vehicle of today is an advanced VTOL system ... merging the technologies of electronics and the airframe to provide the world's most versatile means of transportation. And our continuing objective is the further advancement

STRATFORD, CONNECTICUT

of this sophisticated new technology.

And what about you? As a Sikorsky engineer, you would be helping to move "tomorrow" closer by working in small interdependent groups on demanding problems in such areas as derodynamics . human factors engineering • automatic controls • structures engineering • weight prediction • systems analysis • operations research reliability/maintainability engineering • autonavigation systems . computer technology . . . among others.

Opportunities for individual stature and personal progress are here . . . now.

And professional competence is further advanced by our corporation-financed Graduate Education Program.

Please consult your College Placement Office for campus interview dates-or-for further information, write to Mr. Leo J. Shalvoy, Engineering Personnel.

Sikorsky Aircraft DIVISION OF UNITED AIRCRAFT CORPORATION

ELECTRONIC ENGINEERS MATHEMATICIANS

Let's discuss tomorrow

In science and technology, the accomplishments of today are but direction for tomorrow. Why? Simply because resting on the accomplishments of today is a luxury we cannot afford.

In Communications Engineering, where others are content to modify, our mandate is to CREATE.

In Electronic Data Processing Systems, where others are content to innovate, our mandate is to CREATE.

This, then, is the philosophy . . . the crux of intellectual thought . . . at the National Security Agency-where the concepts of tomorrow are the problems of today.

So let's discuss the future... yours and ours

If you are a gifted and interested Engineer or Mathematician, we have much in common-including A COMPULSION TO SUCCEED.

Our future is contingent upon a constant input of new . . . and creative . . . scientific talent . . . the lifeline of any institution. Our success is embodied in the technical capabilities of our professional staff. To assure this, scientific employees are encouraged to pursue graduate studies at local universities under Agency sponsorship. Your future with NSA will entail education . . . early responsibility . . . and unusually challenging assignments. Why? Because . . .

- · We MUST create completely new kinds of communications equipments and systems embodying concepts and techniques THAT HAVE NO PRECEDENT . . . antennas, transmitters, receivers and terminal hardware of a most advanced design.
- We MUST assure the complete invulnerability of message content through the novel . . . but never static . . . science of cryptology.
- We MUST develop special refinements for computers and electronic data processing systems ... experimenting with the latest semiconductors, magnetic film and superconductive devices to provide new logic circuits and memory units for increased speed and capacity.

Interested? . . . If so, then LET'S DISCUSS TOMORROW. Representatives of the National Security Agency will be on campus in the near future. Check with your Placement Office for details and dates, or write to:

> Mr. Phillip M. Coffey College Relations Branch Office of Personnel National Security Agency Fort George G. Meade, Maryland



National Security Agency Fort George G. Meade, Maryland AN EQUAL OPPORTUNITY EMPLOYER WHERE THE CONCEPTS OF TOMORROW ARE THE PROBLEMS OF TODAY

HONEST??

This survey is being taken in an effort to sample student opinion relating to dishonesty at Tech. The results of the survey will be compared with the problem of cheating and its solution at other colleges and universities.

- Do you consider cheating a problem at Tech?
 - Yes
 - No
- What do you think constitutes
 - Copying homework, lab reports, etc.
- Dishonesty on exams,
- On which of the following do you feel the major responsi-

bility rests for the cheating that exists?

- system, etc.)
- Why do you think people are dishonest at Tech?
 - personal goals.
- - □ No

- The faculty
- The curriculum (grading
- The individual student
- - Must cheat to achieve
 - Too much work
 - Meaningless assignments
- 5. Do you cheat?
 - Yes

should be handled by: Student Board

(Explain if you wish)

7. If you consider action against

dishonesty at Tech necessary,

do you think the problem

6. Do you feel cheating is mo-

rally wrong? Yes

NO

☐ No

- The Tech Senate

The Administration

(No mark will indicate no action necessary)

I am in the class of 196.

PLEASE FILL IN ABOVE SUR-VEY AND PLACE IT IN THE BOX FOR THE SURVEY ON THE STUDENT NOTICE BOARD IN BOYNTON.

ELECTRICAL ENGINEERS — PHYSICISTS

FIND OUT NOW WHAT NORDEN **CAN DO FOR YOUR CAREER**

LOOK OVER THESE 3 PRIME PROFESSIONAL ASSETS

CHOICE - what ever your interest in electronics may be, it is almost certain that you can satisfy it at NORDEN: computer techniques, display integration, radar systems, TV, IR, microelectronic or more conventional circuitry, stabilization and navigation systems. Applications run the gamut of advanced underwater, shipboard, aircraft and space vehicle systems and ground support complexes.

CLIMATE FOR ACHIEVEMENT-

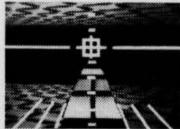
the working atmosphere at NORDEN is designed to encourage continual learning and growth. You gain broad exposure to all technical aspects of a problem through our method of assigning projects to problem-solving teams. You will be backed by a strong support group of engineering assistants and technicians. Opportunities for advanced study at nearby academic institutions are open to qualified engineers under our corporate-financed Graduate Education Program

AN ENVIRONMENT FOR LIVING that's second to none. NORDEN'S lo-

cation in famous Fairfield County, Connecticut, offers a rare combination of cultural and sports activities the year 'round. Close by is Long Island Sound. Hunting country and ski centers are within easy driving distance, as are a number of nationally-known cultural events. And New York City is a short 41 miles away.

A few typical project areas are described at the right.

Electrical Engineers and Physicists graduating in 1965 are invited to contact your College Placement Officer to arrange an on-campus interview. Or you may forward your resume to: Mr. James E. Fitzgerald, Technical Employment Manager.



project a roadway on a TV screen to aid in the guidance and control of submerged submarines. Applications also to manned space vehicles and aircraft.



MICROCIRCUITS and COMPONENTS - for example, the integrated 2-watt, class A, linear differential servo amplifier shown above occupies a %" x %" wafer-thin package. Exemplifying components work here, 54 basic models of shaft position encoders are now being produced.



ADVANCED RADAR - Norstar, an ad vanced radar system, employs phase interferometry with a rigidly-mounted antenna that can gather scan data for terrain-following and roll maneuvers in aircraft or missiles.

NOTCEN DIVISION OF UNITED AIRCRAFT CORPORATION

Norwalk, Connecticut

An Equal Opportunity Employer



ENGINEERS LOSE

schedule this past Friday night in action. a losing effort against the University of Connecticut Huskies. The hustle and an inability to take ad- a fast break and scored on Tech's fense and lacked the characterisvantage of scoring opportunities presented to them.

The first period proved to be the most disastrous for the Engineers. Right from the first face-off, all the action took place around the Tech goal. This is evidenced by the fact that Tech's goalie, Joe Goulart, made 22 saves in this period. UConn controlled the puck and succeeded in scoring their first goal at 6:12 of the first period. They quickly followed this score up with five more goals to lead at the close of the first period by a score of 6-0.

Tech, besides not hustling, had several penalties called against them, which placed UConn in an extra man situation several times. When the Huskies scored their second goal at 8:21, WPI was down two men. Bill Baker drew a major penalty of five minutes for throwperiod defending their own goal.

advantageous for the Engineers. McDonagh beat the UConn goalie The WPI team showed more hus- after a pass from Bill Baker on a tle, particularly on defense. Play fast break. But Tech's hopes were ends of the ice with some rough sides, thus nullifying the goal. playing being exhibited by both

The third period opened with goal at 17:56 of this period. WPI showing well. But at 4:22 of

The Worcester Tech Hockey was checked hard and shaken, but ter's first goal with an assist from Team opened its eighteen game after a short delay he returned to Bill Baker. Play continued with Boraks of WPI scoring a second

As far as the overall play goes, Team generally showed a lack of this period, UConn broke away on Worcester Tech was slow on de-



BIM STANTON BREAKS UP UCONN PLAY

UConn scoring another goal at 5:32. The second period proved more Then at 15:37 defenseman Paul

But the undaunted Engineers teams. At 17:36 of this period, played harder than ever and at Tech's defenseman Paul McDonagh 15:59 Steve Cotter scored Worces- at 2:00 P.M.

ing his stick after it had broken. goalie, Joe Goulart, in a one on tic hustle is had last year. Goalie Thus, Tech spent most the first one situation. Play continued, with Joe Goulart had a busy night defending the nets, with fifty-one saves to his credit.

The Engineers next encounter is with New Haven College this Wedwas equally distributed on both short-lived as Tech's wing was off- nesday at 9:30 P.M. at the Worcester Arena. They follow this up with an away game at the University of Massachusetts on Dec. 12,

Cannon and Kasper Lead J.V.'s Over Brandeis and Stevens

Varsity basketball squad notched Business College its second straight its first victory of the season at the expense of the Brandeis Jayvees at Brandeis. The game was close throughout the first half with Tech leading by a mere six points after two periods of play. However the final two quarters were another story. Led by Freshman guard Ed Cannon, who tallied 19 of his 25 points in the second half, the visitors widened the gap steadily and eventually won by 24 points, 59-35.

Cannon was complemented by Dave Rice's 14 points, Chet Kasper's 11 points, and the good floor game of Davy Crockett. According to Coach Helming, who was making his coaching debut, the key factors of the victory were the rebounding of Kasper, Rice, and Jim Ruslavsky and the hustle and good defensive play of the entire

> You Will NOTIS

The Difference PIZZA

GRINDERS ITALIAN SANDWICHES

> 137 HIGHLAND ST. AVOID WAITING CALL PL 2-9248

Coach Dave Helming's Junior | The J.V. squad made Stevens victim last Saturday night at Alumni Gym. The win was the result

> Complete Tune Up Service GOYETTE'S SERVICE STATION

102 Highland St. at Boynton St. Worcester, Mass., Tel. PL 3-9579

of a fine team effort with all five starters hitting double figures. Rice, Kasper, Cannon, Raslavsky, and Crockett all combined to give Tech a 85-67 victory.

Crew Cuts

Ivy League

RUDY'S BARBER SHOP and STEAM BATHS

> Corner of Highland and West Streets

STEAM BATHS

Taking another ho-hum vacation because you think traveling is expensive?

Cut it out.

COLLEGE RELATIONS DIRECTOR Sheraton-Park Hotel

Washington, D.C. 20008 Dear Sheraton: Please rush me an application for a free Sheraton Student ID Card. I understand it will get me discounts on room rates at Sheraton Hotels &

Motor Inns. Good Deal!

Address.

95 Sheraton Hotels & Motor Inns



A Winning Season?

The 1964-65 version of the Worcester Tech Basketball Team seems to have the makings for one of the school's best quintets in recent years. The squad has five lettermen back including four of last year's starters. The only vacant spot on the first team has been taken over nicely by flashy freshman forward Kevin Sullivan.

Sullivan seems to be the answer to Head Coach McNulty's dreams at the forward slot, an apparent trouble spot before the season began. A high jumper, who has jumped 6' 31/2" in track, he has helped center Bill Nims considerably off the boards. He also owns a deadly jump shot that combined with his defensive ability should help to make him a big asset to the team for the next four years.

The other forward position is held down by Captain Dave LaRue. LaRue, a starter for three years, looks as good as ever this year and if he can shake an ankle injury, is capable of having a great season. Backing up LaRue and Sullivan will be steady sophomore Ray Rodgers, who lettered as a guard last year.

The guard and center positions are also exceptionally strong with three returning veterans. Standout center Bill Nims and hot-shooting guard Don Lutz have each had a full season under their belts and could enjoy banner years. The other guard is Junior Larry Penoncello who is starting his third season as a regular. Larry also has shown all the earmarks of having an exceptional season.

If all of the above players live up to expectations, it should be a most enjoyable season for Tech basketball fans.

In fact, only one player will graduate from this year's team, leaving an even better nucleus for next year.

If W.P.I. does not have a winning season (something it has not had for some time) in either of the next two years, it may be a long, long time before it does.

SPORTS BANQUET

Last Monday night the annual Fall Sports Banquet was held featuring Mike Holovak, the coach of the Boston Patriots. He gave an interesting resume of the lives and activities of typical pro football players.

Earlier in the evening next year's fall sports captains were elected by this year's lettermen. They are as follows:

Football Bob Sinuc and Ron Crump Soccer Jim Maroney and Joe Acker Cross Country Tom Kelley and Cary Palulis Congratulations to these men!

R. D. K.

SPORTS CALENDAR

BASKETBALL

December 12-Wesleyan December 16-Boston Univ.

Away 8:00 p.m. Away 8:00 p.m. December 18-Hartford

SWIMMING

December 12-Norwich December 17-Tufts

Home 2:00 p.m. Away 7:00 p.m.

Home 8:30 p.m.

WRESTLING

December 12-RPI December 16-Univ. of R. I. Away 2:00 p.m. Away 7:30 p.m.



V.P.I. TOPS BRANDEIS LOSES TO BOWDOIN

BASKET IN LAST TWO SECONDS DEFEATS TECH BY ONE POINT

69-64, in Waltham on Thursday, December 3rd. The Engineers gained revenge on their hosts, who set back Tech last year in another closely fought contest.



ball

pest

ack spot

esh-

ty's

ore

in

the

vith

ave

ver

of

will

ard

ally

full

The

his

ear-

uld

ar's

g it

it

was

ots.

of

NIMS ON THE LINE

Led by junior Bill Nims and sophomore Don Lutz, the Boynton Hillers took charge midway in the second half and held on to their lead for the remainder of the game.

Down 47-46 with approximately ll minutes to go, WPI quickly netted two baskets to take a three point advantage, 50-47, and never again was this lead overcome. After this it was a game of foul

The Worcester Tech basketball | being pushed around under the team began its 1964-65 season by boards, sinking 10 free throws defeating Brandeis University, in the next ten minutes and Lutz netting five.

> In the first half the Brandeis five started off by hooping up the first two baskets of the game. This was followed by Worcester's first two-pointer, which was scored by captain Dave LaRue after a minute and a half of play. The score was knotted, 13-13, at the end of five minutes of play and, 18-18, with 10:30 left in the

A three-point play by freshman Jeff Shaw, who shared one of the forward positions with another freshman Kevin Sullivan, started the rally that put the Engineers up, 36-29, at half-time. The score came with eight minutes remaining in the period and gave Tech a, 23-22, edge. From here the Tech five took command and lengthened the margin to seven points before the midway break.

A Brandeis press and sloppy ball-handling by the Engineers brought the Indians to a, 41-41, tie after 4:30 of the second half. Midway in the final session Worcester took control of the board and was never seriously threatened again.

Nims was the leading scorer for the Engineers with 19 points. Lutz followed with 18 and captain

Shaw, and Sullivan did a fine job in controlling the boards which was the deciding factor in the game.

BOWDOIN

The Bowdoin Polar Bears spoiled the home opener for Worcester Tech as they nipped the Engineers, 76-75, in the final two seconds on a basket from underneath by Dick Whitmore. It was nothing new for the Tech five,



shooting with Nims, who was LaRue finished with 11. Nims, SULLIVAN HITS FOR TWO

The Worcester Tech wrestling other fine season for the Tech defeated Dave Richardson. improved squad from past seasons, shared pins in the next two match-

The first contest went to Hartteam opened its third varsity sea- ford as Hartford's Curry beat Tech son last Friday evening. A solid frosh Marty Koski 10 to 5 in the victory over Hartford College 123 pound class. Co-Captain "Jake" seems to indicate the start of an- Jacobson evened the score as he

grapplers. Hartford, definitely an The Engineers and the Hawks



CO-CAPTAINS TRASK AND JACOBSON WITH COACH RAY SCOTT

was still no match for the deter- es. In the 137 pound class freshmined, aggressive Techmen, who man Bob Locke fought a tough downed the Hawks 20 to 8.

his Hartford opponent 9 to 2.

were well in contention through in the match. the first four matches. They held an 8 to 8 tie with the Engineers four contests to wrap up the match with both teams having a pin and for the Boynton-Hillers. The 157

contest with Yates of Hartford. The outcome of the match was Late in the third period Locke foreshadowed by a pre-match ex- ended the tussle by pinning the hibition. Freshman Rich Simoneau Hartford wrestler. Hartford's pinshowed excellent form as he beat ning victim in the 147 pound class was Tech sophomore John Turick. The Hartford College Hawks who saw his first wrestling action

> The Tech matmen took the final pound class nearly ended in a 0 to



FRESHMAN KOSKI AGAINST NEW ENGLAND STANDOUT CURRY

who were on the losing end of many one point decisions last year. The game was played at Alumni Gym on Saturday night, December 5th.

With 13 seconds remaining in the contest and Worcester holdhit Don Lutz and Lutz went to the line but missed. The Polar Bears grabbed the rebound and with 8 seconds left they called time out to set-up their last play. The time out proved worthwhile for Ingram passed to Whitmore cutting underneath on a pick and the 6'1" forward laid it up and in with 2 seconds to go.

The Engineers couldn't miss early in the first half as Lutz and Kevin Sullivan tossed in long jumpers to put them in front 20-12. However, the board-controlling Bears soon cooled off Worcester and moved out in front. At halftime Bowdoin held an eight point spread over Tech,

Down, 49-36, in the early minutes of the second half the Engineers began to click. With all

0 draw. But, Tech's John Wilson, a senior, garnered two points for a reversal in the final seconds to defeat Doglio. The highlight of the evening was the 167 pound contest which featured Tech's Ron Tata against Hartford's Curtis. Tata left the fans breathless, as he was nearly pinned on several occasions. ing possession with a one point His strength countered his recklead the Brunswick, Maine five lessness and saved the match, as was forced to foul. Steve Ingram | Tata won 10 to 12. Dave Herman downed Hartford's McDonald in a 2 to 0 win in the 177 pound class. The heavy weight contest showed Co-captain Russ Trask dump his opponent 6 to 2. Trask beat the husky Hawk while favoring a bruised shoulder.

> five starters popping them in from the outside they once again gained the lead and with approximately seven minutes to go, Tech was out in front, 62-56. The Polar Bears put on the pressure after this and caught the Engineers just at the wire.

> Guard Don Lutz was the top scorer for WPI with 18 points. The other four starters also hit double figures as Sullivan netted 16, LaRue 13, Penoncello 12 and Nims 12. Whitmore and Pease paced the Bowdoin attack with 24 and 22 respectively.

ENGINEERING OPPORTUNITIES

for Seniors and Graduates in MECHANICAL,

AERONAUTICAL, CHEMICAL, ELECTRICAL, and METALLURGICAL **ENGINEERING**

ENGINEERING MECHANICS APPLIED MATHEMATICS **PHYSICS** and

CAMPUS INTERVIEWS

FRIDAY, DEC. 18

Appointments should be made in advance through your College Placement Office

Pratt & Whitney **Aircraft**



An Equal Opportunity Employer

SPECIALISTS IN POWER ... POWER FOR PROPULSION—POWER FOR AUXILIARY SYSTEMS.
CURRENT UTILIZATIONS INCLUDE AIRCRAFT, M.SSILES, SPACE VEHICLES, MARINE AND INDUSTRIAL APPLICATIONS.

stereophonic performance equalled only by the finest consoles . . .

in the most compact system



The KLH Model Fifteen Compact Phonograph System Nothing with such sound quality was ever so compact and convenient before. Or so modestly priced. A complete stereophonic music center in 3 handsome oiled walnut cabinets, designed to fit in anywhere in any room, home or office.

- ALL TRANSISTORIZED no tubes
- 15 WATT music-power solid state pre-amp/amplifier
- GARRARD AT-6 automatic 4-speed record changer PICKERING 380C magnetic pickup with diamond stylus
- FOUR revolutionary full-range, long excursion KLH speakers in two enclosures deliver a smooth natural sound quality and bass performance you have never heard before in a system of this size.

 Speaker enclosures separate up to 48 feet.
- CONTROLS: Volume, Balance, Bass, Treble, Mono/Stereo, Phono/Auxiliary.
- INPUTS for a tuner or tape recorder.

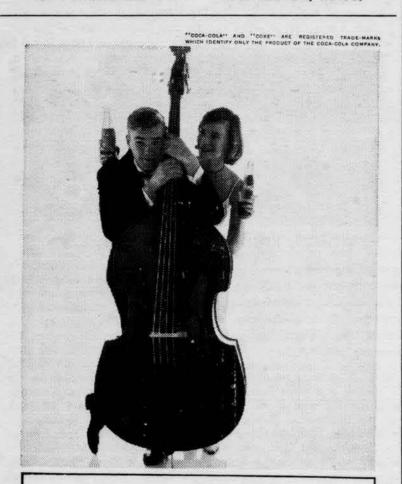
 OUTPUTS for a tape recorder or earphones

KI.... | Model ... \$259 dust cover available as optional accessory

High Fidelity Associates

131A HIGHLAND ST.

WORCESTER, MASS.



Take 5... and swing out refreshed. Coca-Cola - with its bright lively lift, big bold taste,

never too sweet - refreshes best.



Bottled under the authority of The Coca-Cola Company by:

Continued from Page 1

Although the Council stated that the staff of the Civil department can be relied on to provide a civil engineering education consistent with the stated goals and objectives of the Institute and department chairman, it also noted that the students are not required to utilize mathematics sufficiently in subsequent courses. It suggested that improvement of this situation would make the students more confident of their abilities. It was also advised that continued efforts to keep the curriculum up to date should be made, and the faculty should be encouraged and supported in attending professional meetings, special summer courses, and other professional activity.

The quality and quantity of de- ing.

partmental resources in the Mechanical Engineering department were lauded by the council's report. Most of the laboratories, it stated, are well-equipped for both teaching and modest research programs. The trend toward greater interplay between the mechanical engineering faculty and the other faculties at W.P.I. and the involvement of the mechanical engineering staff in teaching and professional organizations and contacts outside the institute are encouraging, according to the report, and deserve continued support.

Certain subject presentationsnoteably statics and dynamics were noted by the council as being too much oriented toward carefully defined problem solvASME Continued from Page 1

Fluids, Energetics, Industrial Engineering, and Mechanics.

Thirty-nine undergraduate and graduate students attended the meeting, as well as four members of the M.E. Department faculty.

Nearly all who went along expressed the feeling that attendance at meetings of this type helps to foster the spirit of the professional engineer.

HIGHLANDER

Worcester's Most Modern Diner

OPEN TILL 2 A.M.

"what can my job be at IBM?"

In IBM Data Processing, your job can be full of variety. Especially when you consider all the ways computers are used.

As an IBM Data Processing Systems Engineer, you would be helping customers get the most from their computers. They could be customers in science, government, education, defense, industry, or business. You might even specialize in one field.

Or, as an IBM Data Processing Representative, you would present to customer executives your ideas for doing their work better with computers. Your own imagination and initiative are the limits of what you can accomplish in marketing IBM products.

If you are working toward a degree—in Liberal Arts, Engineering, the Sciences, or Business Administration-find out what IBM can offer you in the way of achievement. Thorough training at special IBM schools will prepare you for work in either Systems Engineering or Marketing.

See your college placement officer for literature on these careers-and make an appointment with our interviewers. IBM is an Equal Opportunity Employer.

Interviews February 8, 9

If you cannot attend the interviews, write or visit the nearest IBM sales office.

C. A. Erickson Branch Manager 43 Harvard St. Worcester, Mass. 01608