

FRESHMEN TROUNCE ON SOPHS WHILE PADDLING TO VICTORY

ALUMNI SOON TO BE WELCOMED AT HOMECOMING

Many Activities Are Planned

Homecoming, '59 style, will be held on October 31 and presently the various campus organizations are in full swing with their plans to welcome back the alumni. As in years past, a large number of Tech men are expected to return to their Alma Mater to recall fond memories and renew old friendships. For the underclassmen it is an opportunity to talk with the graduates, and hear about how it was in the "old days" at the Tute. Seniors will be anxious to hear of the job opportunities that await them. As in every year it will be a time when school and class spirit run high.

Chairman for this year's Homecoming will be Harold F. Melden '49. Members of his committees include James F. O'Regan, Edward W. Randall, Howard W. Green and Neil J. Crowley '50. In keeping with tradition, the Homecoming is sponsored by the graduating class of 10 years ago, members of this class and one from the class of '50 comprise the Homecoming Committee. Student chairman for the day's events is Dan O'Grady, Jr.

The Alumni will find upon their arrival, that a full schedule of activities awaits them. They will no doubt do some exploring on their own, however, and inspect our new buildings, Olin

Partial Renovation of Salisbury Laboratories To Commence Shortly

Within the next few weeks, the first phase in the renovation of Salisbury Laboratories will begin. This first phase will entail the building of a new stairway in the corner of the West St. end of the building. This will be the first step in a proposed \$600,000 program to completely do over the interior of the building.

The second step in the program will begin next summer when the present staircase will be rebuilt. Plans for the remainder of the work are indefinite, pending the outcome of the fund raising drive, now in full swing. In general these plans will be to modernize the inside, including new facilities for the laboratories and offices.

The completion of Olin Hall has left the whole of Salisbury Labs to the Chemical Engineering and Chemistry departments. The chemistry professors have moved into the offices vacated by the physics professors, and some of the physics labs will be converted into chemistry labs. At present, one of the former physics labs on the ground floor is being used for the ROTC arms room.

The contract for the present phase of the work was awarded to the E. J. Cross Co.

and Morgan, Computer facilities, and of course the Atomic Reactor in Washburn which is nearing completion. Between luncheons and meetings, Fraternities and football, they will enjoy a busy afternoon. After a buffet supper held in the individual Fraternity houses and dormitory, the alumnus will make the rounds of the different Fraternity Houses to inspect the Homecoming displays. Competition this year will be as keen as ever. Judges for the event will be Lt. Col. Bryan Cowan, P.M. S.T., Prof. Elliott Buell and Asst. Prof. James Kaulzarich. Between 5 and 8 P.M., the judges will view the displays and make their choice. The winning House will be announced at intermission during the Homecoming dance.

The dance will bring to an end another busy and successful Homecoming. Dancing to the fine music of our own Boyntonians will be the perfect ending to an enjoyable day. Tickets are available for the dance from any of the Fraternity or dormitory representatives. Admission is \$1.75 per couple and \$.75 stag. It promises to be another great Homecoming.

Honor Paid Dr. Goddard

Tech graduate and space pioneer, Robert H. Goddard, was recently honored by Congress as one of the great scientists of the ages. This action was brought about by a House Joint Resolution sponsored by Congressmen Philip J. Philbin of Clinton, and Harold Donohue of Worcester. The Joint Bill called for striking a medal in his honor.

Professor Goddard, who died in 1945, is considered the father of modern rocketry. He pioneered the fields of rockets, missiles, radioactive fuels, jet propulsion, gyroscopic control, and recording instrumentation, as well as developing the bazooka of World War II.

Congressman Philbin presented his reasons for proposing the resolution in the appendix of the Congressional Record. In giving the background of Dr. Goddard's life of science, Philbin quoted a memorandum written by Goddard's wife which was made available to him by the Institute. Philbin also quoted leading scientists in their praise of an action by Congress honoring Dr. Goddard.

The resolution stated that in honor of Goddard's achievements in the field of science, that the Congress be authorized to present to the family of the late Dr. Goddard an appropriate gold medal, and that an appropriation of \$2500.00 be authorized for the purpose.

The TECH NEWS honored Dr. Goddard last year with a special issue devoted to his life and studies. The issue came out during the dedication of the Goddard Memorial in Higgins by his wife Mrs. Esther Goddard.

Class Meetings Start The Year Discussing Many Varied Topics

The first class meeting of the new school year was held Wednesday, October 14, 1959, at which time the freshmen heard a talk from Professor Scheifley concerning rushing while the upperclassmen were busy discussing plans for the forthcoming sophomore-freshman class contests and various social events.

Professor Scheifley explained the rushing system to the freshmen and also cautioned them in regard to certain phases of it. He clarified the rule requiring the freshmen to attend all houses inviting them for first rush, and also the necessity for fraternities to exclude some men. He stressed the fact that in fairness to everyone concerned the rushing rules should be strictly adhered to, and that any violations of the rules should be reported to him. A black mark should be mentally recorded against the house which is seen willfully and flagrantly violating the rushing rules. He warned that there are times when fraternities will attempt to "sell" themselves by blackening others despite the fact that a rushee should be "sold" on the merits of the fraternity alone. He made it known that their privacy in the dorm was not to be infringed upon by a fraternity man, for their opinions should be confined to proper rushing periods.

At their meeting, the sophomore class made tentative plans to have the freshman-sophomore football game on a Saturday night in mid-November and to supplement this entertainment with a dance afterwards. Any constructive criticisms, for, or against this plan may be made to Vic Castellani at Phi Kappa Theta. The question arose concerning the fact that the freshman bow ties had arrived late this year and therefore were unable to be sold. It was determined to sell them at cost to the class of '63 who in turn could sell them next year to the freshmen.

The juniors announced that their class dance, which was held in Morgan Hall on October 3, 1959, was well attended and a profit of over \$200 was realized. As a result of the excellent attendance, they are planning a similar dance sometime between first and second rush periods. They also made plans for holding the Junior Prom on April 29, 1960 at a place which as of yet is undetermined. This year, as in previous years, the juniors will sponsor the rope pull. This event will be held as usual at Institute Park on October 23, 1959.

Dean Hollows addressed the senior class concerning placement. He spoke for Mr. Trask, who asked that the men who are going through the school's placement system register in his office between the 19th and 23rd of this month. He also requests that those using the system notify the placement office before contracting any companies on their own. Dean Hollows announced that there would be about 200 companies available this year. Also during the meeting, volunteers were called for the Senior Class Gift Committee.

Frosh Gain Two Easy Points For Goat's Head Trophy. Eagerly Wait For Rope Pull

The traditional freshman-sophomore rivalry started with a "bang," as usual, when the starter's gun went off during half-time at this past Saturday's Tech-Wesleyan game. The freshmen took an early lead due to a fast start. The constant plodding on the part of the

The scene will switch to Institute Pond on Friday, October 23, when the annual "Rope Pull" will take place. The winner of this contest will be awarded three points toward the final score which results in the holding of the "Goat's Head" for one year. The



Freshmen Meet Sophomores Over Paddle

sophomores, who were vastly outnumbered, was to no avail with a result that the freshmen finally emerged victoriously. The final score was roughly 45 paddles to 25. Thus the freshman lead in the freshman-sophomore competition two points to nothing. Both classes displayed a great amount of spirit but the turnout for the freshmen was much better.

ME, EE and Physics Depts. Offer Numerous Seminars During Year

Once again this year open seminars are returning to the Institute. The Mechanical, Electrical, and Physics departments have already made up schedules of their respective seminar programs. All seminars are open to students, faculty, and any interested persons free of charge.

The Mechanical Engineering Seminars will be held at 4:30 on alternate Tuesdays in room 130, Higgins Laboratory. An informal coffee period in room 111 precedes each meeting beginning at 4:00. The following program has been scheduled for this year.

October 22—"Considerations in the Licensing of Nuclear Facilities," by Clifford K. Beck, U. S. Atomic Energy Commission.

November 3—"Principles of Internal Guidance," C. S. Draper, Massachusetts Institute of Technology.

November 17—"Metallurgy Problems in the Power Generation Industry," by Dolph Ebeling, General Electric Co.

December 1—"The Solidification of Metals," by Bruce Chalmers, Harvard University.

December 15—"Nuclear Magnetic Resonance," Dr. John H. Muller, Worcester Polytechnic Institute.

January 5—"Stress Responses in Man," by Hudson Hoagland, Worcester Foundation of Experimental Biology.

See SEMINARS—Page 6

freshmen have won this event for the past two years. The afternoon should prove to be a "soaking" one for the unlucky class that loses. Both classes will need all available support for this event.

These two events are the first in a series of eleven when determine the class that will gain possession of the traditional "Goat's Head" of Worcester Tech. The class of '61 has won the honored trophy for the past two years and the class of '62 will be fighting extra hard to win it for the first time.

Freshman Parents' Day Part of Homecoming

A Freshman Parents' Day will be sponsored by the Society of Families on Saturday, October 31, in conjunction with Homecoming Weekend. Parents who attend will have an opportunity to meet their son's adviser as well as attend some of the college activities on that day.

The program will begin with registration and a coffee hour in the Sanford Riley Lounge from 9:30 A.M. till 10:30 A.M. Later, after being welcomed by President Arthur B. Bronwell, the parents will hear an address entitled "The Role of the Freshman Adviser," given by Asst. Dean of Students Ernest W. Hollows. The Freshman Advisers will be available from 11:00 A.M. till 12:00 noon for those parents who wish to visit with their son's adviser.

Parents will be able to dine with their son in Morgan Hall preceding the football game with Rensselaer Polytechnic Institute and the soccer game with Trinity College. Complimentary tickets will be given for these games. In the evening the annual Homecoming Dance will be held in Alden Memorial Auditorium. Parents may attend if they wish.

EDITORIAL PAGE

RESPECT!

In a very short time the Honor Societies of the Worcester Polytechnic Institute will once again reveal their selections of members from the student body as pledges. Once again some will be exuberant, some will have had expectations and others will be greatly disappointed.

If there were no such thing as honor societies, merit awards, or prizes won in competition, what would be the nature of our people? What would determine an exceptional person from the average or lower than average being?

Therefore after the results of the Honors Assembly, scheduled for October 28, remember what was said by the respective presidents of each organization concerning their purposes and requirements for membership.

Campus World

Schenectady, N. Y.—(I.P.)—Union College has launched an eleven-year, fifteen million dollar fund raising campaign, to provide additional endowment and finance new plant facilities.

A major goal of the campaign will be to provide an increase of \$12,700,000 in endowment. Of this amount, \$7,500,000 would be used to endow new professorships, \$1,000,000 would be added to endowed scholarship funds, \$500,000 to student

loan funds, and the remaining \$1,700,000 to the College's unrestricted endowment.

Since Union's 150th anniversary in 1945, about \$5,000,000 has been added to the endowment of the College, bringing the total market value to approximately \$20,000,000.

Sought for building construction and renovation by 1970 is an additional \$2,300,000, of which \$1,500,000 would be used for new buildings.

Dr. Carter Davidson, Union's President, termed the \$15,000,000 drive "... the most ambitious fund raising campaign ever undertaken by the College. Union cannot stand still.

"To meet these challenges, we must keep our present excellent faculty happy and must strengthen it by new recruits; this will take money—and I do not mean pin money."

Atlanta, Ga.—(I.P.)—A new degree of Bachelor of Science in Engineering Mechanics has been approved by the Board of Regents of the Georgia Institute of Technology.

"This degree offers the student the opportunity for additional study in the area of Applied Mathematics and Mechanics of Materials beyond that provided in the usual undergraduate engineering curriculum," he said.

Rensselaer, Ind.—(I.P.)—St. Joseph's College has increased the requirements in humanities and natural science for all students. The changes, which will become effective with this year's freshmen, will raise the hours needed in humanities from six to eight and in natural science from nine to ten.

The faculty also approved a series of course changes in eight departments. Altogether, these revisions represented the largest simultaneous effort in years to improve and tighten up the academic offerings of the college.

In science, all students will be required to take three hours of mathematics—either general mathematics or college algebra—and at least three hours in either the principles of biology or introductory zoology.

All students, in addition to three hours of mathematics and three of biology, will be required to choose any two of the following four courses: principles of chemistry, principles of geology, principles of physics, and introductory astronomy.

Under the old requirements all students were required to take a nine-hour natural science program composed of the principles of biological science and the principles of physical science.

The most significant among the many departmental course changes will be the introduction of a 12-hour mathematics course which will combine algebra, trigonometry, analytic geometry and calculus.

TECH NEWS

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courses, and for students who require it for their special fields, including geology, business, education, sociology and pre-medical courses, as well as physics, engineering and mathematics.

The course will consist of six hours a semester and will provide utilitarian mathematics "plus a broad coverage of the philosophy of mathematics and of advanced topics of special interest. It is thus suitable for liberal arts courses dealing with mathematics as a cultural entity."

The content of the course will include number systems, laws of algebra, real, rational and complex numbers, trigonometry, analytic geometry, calculus, and introductions to set theory, group theory, fields, probability, statistics, and number theory.

Middletown, Conn.—(I.P.)—The course without grade system at Wesleyan University has been unanimously approved by every teacher who has had a credit-audit student in his class. The teachers cited the system as a step towards Wesleyan's aim for "learning for learning's sake."

A poll of all 35 of the professors who had students in their class under the course without grade system showed 80% of this faculty group felt the privilege should be extended to honor students of the sophomore class and 39% felt that talented freshmen should also reap the benefits of such a procedure.

The course without grade system, commonly but incorrectly called the credit-audit system here, was originally proposed by the student curriculum committee. Under the system, each junior and senior, as a part of his regular quota of courses, is permitted to elect and designate in each semester one course for which he will be granted the usual academic credit but without an official grade on his record.

- 1. The course designated must lie outside the student's Concentration Program.
2. The student must have the permission, in advance, of the instructor of the course.
3. The student should perform the work and otherwise fulfill all the regular requirements of the course to the satisfaction of the instructor.
4. If the student fails to achieve a minimum standing of performance sufficient for credit, the student would receive no credit for the course, but with the instructor's approval, be recorded as having audited the course.



Super Sub!

It's been said that the atomic submarine "Nautilus" stays submerged so long that it only surfaces to let the crew re-enlist. Perhaps for this reason, the Navy has taken valuable space aboard the "Nautilus" for the only soft-drink vending machine in the entire submarine fleet.



Bottled under authority of The Coca-Cola Company by COCA-COLA BOTTLING COMPANY OF WORCESTER



By
ATHENEOTROLEOSPOMOS KEEGAN

On Saturday, October 10, the brothers of Sig Ep held an open house as an official unveiling of the newly redecorated living room and front hall. The party was a smashing success with nearly five hundred people attending throughout the evening. Every house on campus was present and a good time was had by all. House manager Don Dow decided last week to show the brotherhood how skillful he was at fixing windows. After hours of hard work and countless interruptions from sidewalk supervisors the job was complete. As he stepped back to admire his work, he noticed some stray putty on the glass, and while removing it with a screwdriver, he cracked the pane. Nice work Don. This fall a new cook was hired. His name is Bill Harding, and, like wow, can he cook! Last week for one of our noon meals he prepared pizza which was out of this world. No wonder everyone is gaining weight around here. A casualty of the fall cleanup was the illustrious Sig Ep hears. The poor old thing just got too old and was sold for junk to a heartless junk dealer. We feel sure that everyone will miss the old heap and its inevitable appearances at home football games. Say, what's all this talk about fixing up an old jalopy to take its place? The brothers attended Church together last weekend as it is their custom to do once each month.

The past two weeks have been quite hectic down at the "KAP VILLAGE" due in part to rushing and work parties. The major changes occurring at the work parties consisted of a new tile floor for the kitchen and the redecorating of the rooms in both houses. There have also been marked changes in the gameroom. Nevertheless we still managed to keep the house rocking as was shown at the party after the Varsity Club Dance. Thanks to George Yule and the other members of his committee, the party was a real success. Last Friday the Brotherhood of Phi Kappa Theta pledged two new men, Rudy Leistriz of Fitchburg, and Jim Hayes, a transfer from Norwich, from Shrewsbury. In addition, Frank Marra, a transfer from M.I.T., was given house privileges. We find that the Kap Bachelors' Club has lost three more members. The three are found in the persons of Bernie Tetrault, Tom Zimmie, and Jim St. Jean who pinned Nancy Flynn, Pat Kelly and Barbara Paul respectively.

The Tekes kicked off their social season with two mixers, one on Friday and the other Saturday, at which many acquaintances were made with the Becker, St. Vincent, Clark, and Salter girls. The brothers were wishing that more males had been there as three girls to one guy is quite an armful at one time. We would like to know what came over Bob and Maverick last weekend or why Grocki plays tennis at night. Between mixers the brothers also did a little work in fixing up the house spurred on by the kind words of house manager Allen. The fraters have had trouble keeping their minds on their studies, anticipating our cook's (Joe Barnhill) next "mother's was never this good meal." Joe has been cooking for 35 years and most of this time in fraternities around the country. If Joe keeps cooking the way he has been either our budget or our waistlines will be gone. The fraters are looking forward to Homecoming weekend as some of them will be seeing their summer romances for the first time since they said goodby last September.

Now that classes are in full swing and rushing has started, the brotherhood of Alpha Tau Omega is "digging-in" for the busy months ahead. Two weeks ago, the Tau's extended a warm and friendly greeting to the girls from B.J.C. and the student nurses from Memorial and St. Vincents. From the looks of things, the patients at these hospitals are almost guaranteed an enjoyable recovery. Always glad to see new faces, the brothers of 24 Institute Road followed this up by giving a party at which a prize was given to the brothers who brought a freshman (female that is) from any school or college. Everyone had a delightful evening, freshmen included. With Homecoming less than two weeks away, the Tau's are busy preparing for the Homecoming display competition. Though plans for the display are still tentative, it promises to be a good one. Congratulations are in order for Dave Prosser, Doug Gladstone, Rog Strickland and Paul Gelinis who, over the summer, pinned Barbara Padelford, Barbara Streiferd, Kathy Mahoney and Karen Bowers respectively.

The Lambda Chi social season started with a smashing success this weekend, with brother John Vandersea proving to be the life of the party. This party was the first in a long line of successes which mark Lambda Chi Alpha's social season. Lambda Chi gives special note to brother Bob Hanson. That was some date you had Bob! Color was added to the party by the recently redecorated bar and game room. Congratulations to a job well done to the brothers and especially to our able carpenter, brother Ted Cocca. Further improvements were made to the Lambda Chi Alpha chapter house by the complete refurnishing of the living room and the music room.

Homecoming weekend will be a very special event for Lambda Chi since it marks the Fiftieth Anniversary of the national fraternity. The Brotherhood of Lambda Chi Alpha wish to extend a cordial welcome to the Tech campus to help us celebrate this important event.

The past week has seen much excitement at S.A.E. Saturday the 17th, there was a very successful party which was attended by almost all the brothers. While wondering about the party an unusual sight was seen. John Meregian, better known to the brothers as Greek, was seen with a real doll. The brothers after much persuasion got Greek to disclose her name as Noreen Battista. Many of the alumni were also seen at the party. Bill Bailey, Jack McManus and Inky Engstrom were said to have contributed greatly to the joviality of the festivities. As usual, the S.A.E. brothers home away from their fraternity house, Colton Hall, was very well represented. Tommy Morrill was seen at the party tending bar, and of course he did it again. Sure as shooting Gary Papazian was seen with Tony Bondi and a big smile. As was predicted by most of the brothers last year, Hal Christopher and Joe Carpentiere both pinned their girls over the summer. The fraternity house itself was highly altered lately. The brothers busy as beavers the first week back completely tiled the party room floor and painted its walls. Many of the bed rooms also acquired linoleum or new rugs for the floors. With Ed Zylonis as the newly elected social chairman the brothers are looking forward to many top notch parties. When asked what kind of parties he had planned the brothers at

S.A.E. found out he had all kinds of special parties planned up to I.F. weekend.

Saturday evening saw the Phi Sigs warming up and anxiously readying themselves for Homecoming, by gathering together to enjoy a very sociable cocktail party before venturing up to the V.C. Dance. J.D. has been spending long laborious hours in his lab trying untiringly to come up with a new formula for this year's punch. The question is whom (or which) will be the conquerer. The brothers are all pleased to announce that Bruce Bazley has recently become a pledge here at 11 Dean. If that continuous smile worn lately by Bill Calder has anyone wondering it is due to his recent pinning. The lucky girl is Miss Betty Morris.

It is a busy time for all men at Tech and the brothers of OX are no exception. After the Wesleyan game on Saturday the brothers and their dates returned to the house for a little fra-

ternizing before going to the Varsity Club Dance. After the dance the brothers again invaded the Temple. Jim Forand and the Frat Rats, with Big Nick the mover, kept the party jumping with their own interpretation of Speed-O. A warning is out to Bob Whyte, watch out for Slim. A solid backing is given the volleyball team, they are undefeated now and it looks like the OX clubbers are off to a good season in interfraternity sports this season.

During the summer months, the Brothers at old "99," received a very pleasant surprise. They were thrilled to learn that their chapter here at Worcester Tech had been awarded the Cordon Cup. This cup is awarded annually by the National to the Fiji chapter that achieves the greatest improvement during the year. In the latter part of the vacation Ward MacKenzie spent a few days at the Phi

Gamma Delta Chapter at the University of Indiana where the biannual officers school is conducted. Brother Pierce added another name to the long list of Fiji sweethearts, he became engaged to Miss Barbara Ellis.

Tech Students Representative Of Many Areas

The registrar has compiled the following list describing the geographical distribution of the students:

Worcester (city)	194
Worcester County (outside of city)	167
Massachusetts (outside of Worcester County)	282

See STUDENTS—Page 6

Do You Think for Yourself?

(SHARPEN YOUR WITS ON THIS!*)



If you saw a girl in a bathing suit on a ski slope, would you say, (A) "What—no skis?" or (B) "Cold?" or (C) "The pool closed three months ago," or (D) "Stay right here—I'll get the guard!"

A B C D



Do you think the statement "It's always darkest before the dawn" is (A) an astronomical truism? (B) a good reason for getting home early? (C) a piece of hopeful philosophy? (D) an argument for night watchmen?

A B C D



Do you think that a man who can pole-vault 16 feet but doesn't like to, should (A) go out and do it anyway? (B) keep the whole thing to himself? (C) do a bit of self-analysis on why he doesn't like to go so high? (D) have the bar set lower?

A B C D



When you choose a filter cigarette, do you (A) ask all your friends, and take their word for what's best? (B) take the one that makes the loudest claim? (C) investigate the facts, then use your own judgment? (D) go for the filter that gives you taste plus filtering?

A B C D

It's a wise smoker who depends on his own judgment, not opinions of others, in his choice of cigarettes. That is why men and women who think for themselves usually

smoke VICEROY. They know only VICEROY has a thinking man's filter—the filter with more research behind it than any other . . . the filter that changed America's smoking habits. And only VICEROY has a smoking man's taste.

*If you have checked (D) in three out of four questions, you're pretty sharp . . . but if you picked (C)—man, you think for yourself!



**The Man Who Thinks for Himself Knows—
ONLY VICEROY HAS A THINKING MAN'S FILTER . . . A SMOKING MAN'S TASTE!**



WESLEYAN DROPS TECH IN GAINING INITIAL WIN

The Worcester Tech Engineers ran into a winless but powerless Wesleyan College football team last Saturday at Tech's Alumni Field and came out on the short end of a 24-7 score. The contest was marked by a few flare-ups, many fumbles, and rather erratic officiating. Tech took the lead in the first period on a touchdown and Wesleyan came back in the second quarter to take the lead for the remainder of the game to win by 17 points. Tech played a fine first half and appeared to be on the way to a victory with high spirits when fumbles and penalties stopped their chances at critical times. The officiating left something to be desired as far as W.P.I. was concerned. Tech was caught at every wrong act it committed, while Wesleyan, seemingly, got away free of penalties for the same acts.

Sams' pass netted two more points for Wesleyan.

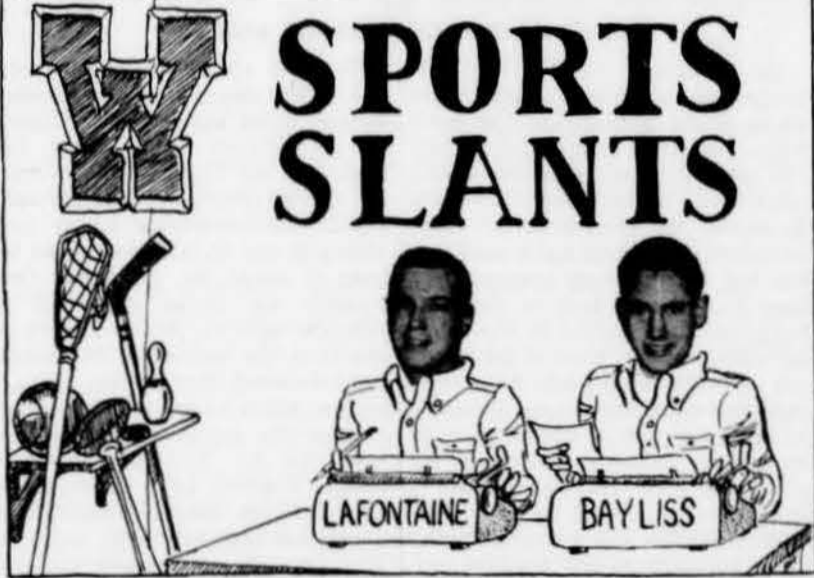
Then Tech gathered steam, and controlled the ball for the remaining four minutes in the half. In that space of time Fred Duval completed four out of seven passes for 68 yards. Dick Tufts also intercepted a Wesleyan aerial to start a Tech drive. In this four minutes, the Engineers were hampered by a fumble and a 15 yard penalty. Both of these misfortunes came when Tech could have made serious threats. The first half ended with the Engineers in possession of the ball on the Wesleyan 45.

Our heroes had eleven first downs to eight for Wesleyan in the first half. They also were penalized 66 yards to Wesleyan's ten yards.

Tech, behind 8-6, kicked to Wesleyan to start the second half. After a series

Tech Dominates & Checks Bates By 14-6 Score

Capitalizing on two big breaks late in the second period, Worcester Tech scored its first football victory of the current season, 14-6 on a beautiful Indian Summer afternoon at Garcelon Field. A crowd of 2,000 viewed the "Dad's Day" defeat of Bates College. Winning the toss, Bates elected to receive, so Pokraka kicked off to the one yard line. However, Harrison, a freshman back for Bates, returned the ball to the twenty yard marker with a nice run. On the second play from the line of scrimmage, Bates fumbled and Sledzik recovered on their twenty five yard line. After three Tech plays netted only seven yards, Pokraka attempted a field goal which went wide of the mark. Throughout the first period Tech dominated the play with neither club scoring. Presented with the ball on the Bates twenty five and eleven yard lines, the Engineers wasted little time in scoring its two touchdowns. They needed only two plays for their first touchdown with Ron Pokraka slashing through the line and outrunning all the deep defenders twenty-three yards to the goal. He also converted the extra point by splitting the uprights. The second TD drive was accomplished in three plays with Ralph Johanson scoring on a one yard buck at the Bates left side. Throughout the first half, Tech dominated the game by stopping all Bates ground drives and passes. On one occasion, Bates had the Techmen on their own one yard line, but a fifty yard punt put the Engineers out of danger. Tech left the field with a 14-0 lead. Throughout the third quarter Tech moved the ball well but didn't score due to either an interception, fumble, or penalty. Bates came to life in the final stanza and scored on a dive play over Tech's left side. Bates was fired up now and realized that they could score again because of the time remaining. However, Tech received the ball on their own forty-five and ran the clock out by taking the ball down to the Bates five yard line. This drive was featured by the hard running of Pokraka and Tufts and one quarterback sneak. The game ended with Tech just about to score its third TD. In summarizing the contest, Bruce Bazley must be praised for his brilliant performance at end. Time after time his skill and elusiveness enabled him to make important tackles. One play found Bazley blocking a Bates kick and Paul Cultrera recovering it at the Bates twenty-five. This set up Tech's second TD. Also playing standout games were the Webster boys, Sledzik and Pokraka; See BATES GAME—Page 5



The fall sports season is now in full swing and we have had a chance to look over most of the teams Tech has fielded this fall. The cross country team has had a tough time of it thus far, losing to Bates and Northeastern.

The soccer team has begun to move after dropping their opener to MIT. The late start of school here on the hill has been responsible for putting our teams at a disadvantage. All the teams Tech has met this year have had at least a week's more workouts than the Boynton Hill booters. However, the team's last two outings have been quite impressive. We extend our congratulations to Bob Clark and Swang Lee-Aphon, for the former's fine showing against the Scarlets and for Swang's clutch goal against Coast Guard to climax a hard fought and a well earned victory. The game against the midshipmen typifies the spirit of this soccer club. The team also has many underclassmen who have been doing a fine job and who hold promise for a fine future for this high spirited group.

The Athletic Department is sponsoring a tennis tournament this week to determine the outstanding player in the freshman class. The turnout has been good and plans are in the making for an all college tournament.

It was almost two weeks ago that the Engineer football squad collected its lone win of the season. It was at Lewiston, Maine, at the expense of the Bates Bobcats. The big Tech line once again carried the team. The men in the forward wall charged aggressively all day, never giving the swift Bates quarterback, Bill Davis, a chance to throw. Bruce Bazley and Buster Bullock gave standout performances.

Tech's best offense in this game was truly its defense, for the two Engineer touchdowns were set up by a blocked kick by Bazley on the Bates 30, and a wild center over the head of the Bates kicker which gave Tech possession on the Bobcat 10-yard line. Other than this the team was unable to move the ball with any great effectiveness until the final seconds of the game when the clock ended a Tech drive to the Bates 20. The Bates captain, Jim Wylie, proved to be one of the best ends Tech has seen in many years.

Last Saturday the team played its second home game of the season. Their exhibition this time was no better than before. The team made several vital mistakes while Wesleyan made few. All this added up to a humiliating loss to what should have been an inferior team. The team seemed to be improving week by week, still looking shabby but nonetheless improving. The team moved well in the first quarter; it almost reminded us of the fabulous team of last year. After the engineers drew first blood they seemed to lay down. The penalties started to come at crucial times costing valuable yardage. Then two personal foul penalties of 15 yards each and of dubious validity sparked a Cardinal drive to a touchdown and a two point extra. This was the game as far as Tech was concerned. The team fell apart. The boys got two more drives going, one of which was ended by a poor call and an early whistle on a Tech fumble. The other drive terminated deep in Wesleyan territory by the same fumble route. The Engineers outplayed the Cardinals in the first half. But the penalties were 65 to 10 in favor of Wesleyan. In the second half things really fell apart. First there were no holes, and then when the line opened the holes the backfield fumbled. Once again Ron Pokraka proved himself to be the team's best runner—and worst ball carrier. Even sure-fingered Fred Duval dropped one. The Engineer football team definitely lacks the spirit and enthusiasm shown by the student body. The only time the team ever "talked it up" on the field was just after Moe Rees was injured. We hope, however, that the student body will lend its support to the team next week as it journeys to New London. Otto Graham's Midshipmen have a rapidly improving team and a well-polished attack which will most surely "do the Techmen in" unless they pick up some of that desire and will to win that has characterized the Engineer teams of the past.



There was a fine crowd present at the game started. W.P.I. won the flip of the coin and took its choice of the south end of the field trying to keep the wind advantage and keep the sun in the eyes of the Wesleyan quarterback.

Two plays after Ron Pokraka's opening kickoff, Bruce Bazley recovered a fumble on the Wesleyan 32 yard line. Tech drove to the 17 yard line where they made an unsuccessful field goal try. Six plays later Moe Rees pounced upon another Wesleyan fumble on the Wesleyan 49 yard line. From there the Engineers, behind the running of Fred Duval, Dick Tufts, and Ron Pokraka, drove down to the Wesleyan 11 yard stripe. Then Pokraka scored Tech's touchdown and kicked the extra point. At this point Tech really looked great. The line was outplaying the Wesleyan line completely, opening big holes for its hard running backs. It looked like another victory for Tech. This play continued well into the second period with Pokraka just missing a 44 yard field goal. The Engineers were completely in control of the situation. Then with about 9 minutes left in the first half the roof started leaking in. A 15 yard penalty against Tech forced them to punt. Duval kicked the ball out of bounds at the Wesleyan 5. From here Wesleyan worked its way to its own 33. Here, a Wesleyan player lined up at Buster Bullock and shoved him. Bullock wouldn't take any of this and retaliated, but he was caught by the referee. Then Wesleyan marched to a touchdown with the help of another major penalty against Tech. Mitchell scored the touchdown and a

of fumbles by both teams, Tech's Moe Rees recovered a Wesleyan fumble at the Wesleyan 36 after the Tech line had really put the rush on the Wesleyan quarterback, Sams. Tech was on the move again, or so it seemed. Then a 15 yard penalty and a pass interception by Wesleyan resulted in Tech's downfall. Wesleyan scored at the 1:15 mark of the fourth quarter with DeMiro going 25 yards for the touchdown. Wesleyan controlled the football in the fourth quarter and scored its third touchdown after recovering a Tech fumble on the W.P.I. 25 yard line. With only a minute and a half remaining in the game Tech couldn't move and the final score was Wesleyan 24, W.P.I. 7.

Duval, Rees, Bazley, Tufts and Bullock played an outstanding game for Tech. Fred Duval's punting averaged 38.0 yards per kick.

SOCCKER SQUAD OPENS YEAR WINNING 2 OF 3

At the outset of the season, things did not look quite as promising as they do now. Coach Al King was by no means happy with the way that the players were shaping up in the pre-season practices. On Saturday October 10, the boys were off to Boston to tussle with M.I.T. To make matters worse, M.I.T. had already gotten a couple of games under their belts, and it was known that the game would have been a tough scrap even if things had been evened up in this department.

In the first half M.I.T. completely dominated the action. The Engineers were lagging the ball. They were not getting in on it at all. Tech passes were wild and erratic. As a matter of fact, they weren't passing the ball at all, they were just booting it. Meanwhile, M.I.T. was playing with cool confident precision. A combination of pinpoint passing and fancy dribbling kept the Worcester players on the defense continuously. At 6:45 of the See SOCCER—Page 5

SOCER—From Page 4

first session, M.I.T. set up a corner kick. A beautiful toe to the far post, and a pretty head by Penna brought the first score of the game.

Then at 11:15 of the same quarter, Penna scored again to up the tally to two to nothing. This is the way the score stood when the gun sounded for the end of the period.

When the ball was put back into play, M.I.T. wasted no time in upping their advantage. Only 45 seconds had elapsed, and Camejo belted the ball into the nets to make it 3 to 0. Two and one-half minutes later he fed the ball to Penna, for an assist on Penna's third goal of the game.

The start of the second half brought quite a change in the Tech team. Suddenly they settled down. It became obvious that M.I.T.'s advantage of having played two games was wearing away. No longer were the Engineers on the defense all the time. Although they still were not sharp enough to set up some scoring drives, they did even off the action. The Boston boys did manage one more score, though, and on a very pretty fast break. A long pass which covered almost three quarters of the length of the field led to an easy score by MacCaya at 18:00 of the third quarter.

This closed out the scoring of the game. The Engineers made no excuses after the game. M.I.T. was good, very good. Some of the Tech men looked good too, however. For example, Tom Caste, Joe Venuti, Swang Lee-Aphon, Art Greene, and Ray Zidziunas all showed their talents. There were also some Freshmen who showed promise: John McGuire, Todd Ealand, and Bob Richmond.

The following Wednesday Clark made its "Trek to Tech." In the first period Worcester dominated the play, but only because Clark looked worse than they did. Then in the second quarter the team started to click. At 15:10 of that session, Lee-Aphon assisted Bob Clark to his first goal of the game. This took a long time in coming, but, as one observer said, "the rest will come easier now."

In the third quarter, Tech really let loose, and played good soccer for the first time of the young season. Tech passing sharpened up. Their dribbling started to fool their opponents badly. At 8:45 Clark scored again, assisted this time by Ray Zidziunas. Five minutes later it was Clark again. This time a handball called on Clark, gave Tech a direct penalty kick, and Bob booted it neatly into the nets. To make a little variety, Bernie Tetrault headed in the fourth and final with 18 minutes gone.

The rest of the game saw many substitutions for the Engineers. Still they dominated the play to round out a very convincing victory. More Freshman talent was uncovered during the game in the person of Pete Borden.

Although the Engineers had evened off their record, they had done so at the expense of a team that did not offer much in the way of competition. Now they had to look forward to playing a team who had played three games, with a single loss to powerful Trinity by a 2 to 1 score. Last Saturday strong opposition arrived from Coast Guard.

In the opening seconds of the game, it looked like the advance reports on Coast Guard would be borne out. They moved the ball skillfully down the field with beautiful passing and dribbling. The Worcester men, however, were undaunted. Suddenly they took the ball away from Coast Guard, and brought it up the field. It didn't take long to figure out that they were out to win this game, or die trying. They poured the offensive pressure on, and at 3:45 Tom Caste found the ball in a big scramble in front of the goal and belted it in. A mighty roar went out from the Tech bench. The Engineers were on their way. Mighty Coast Guard now looked confused. This wasn't supposed to happen to the team that had only to show up to win. Worcester got the ball again. They put the pressure on again, playing soccer for everything they were worth. Four minutes later they scored again, upping their advantage to 2 to 0. This was a weird

play, with the ball actually being knocked in by a Coast Guard fullback. Dick Mixer, the last Tech player to touch the ball, got credit for the goal.

In the second quarter, Coast Guard seemed to settle down a little. Play was no longer dominated by the Engineers, who were now handicapped by the loss of Art Greene. (Late in the first period Art collided with Tom Caste while both were going up to head a free ball; severe cuts plus a broken nose forced him to leave the game.) The Worcester men were still hustling, but twice during this frame the defenses allowed a Coast Guard goal to slip through. Both of these were scored by Hastings.

This seemed to anger the Tech team, and in the second half they reached back for that something extra. The ball

went up and down the field, but each time it looked as if someone might score, the defenses stiffened up. Tension mounted. On one occasion, a fist fight nearly broke out. But neither team was able to score, and finally the gun sounded, signaling that the game was going into overtime.

In soccer, overtime consists of two five minute periods. Both teams were exhausted from the pressure of the second half, and when the ball was put into play, the air was electric. After a couple of offensive attempts by both teams, Swang Lee-Aphon got the ball at midfield. He took the ball and began to dribble towards the goal. With cool precision he faked one Coast Guard defender off his feet, advanced the ball a few more steps, and then belted the ball into the goal. The Tech team went

wild. They swarmed around him on the field. But they hadn't won the game yet. Now they had to defend that lead. Coast Guard knew it was do or die, and they began to put on the pressure. Coach King looked like he was going to have a heart attack, as the Tech defenses put down one attempt after another. Finally the gun went off to signal the end of the game, and the Class of '93 Field turned into a madhouse.

This was one of the finest soccer games that has been seen around here in many years. In all the time that this reporter has been watching athletic events, he has never seen a team with more hustle, drive and determination. The contest was a real tribute to the players and especially to their coach, who was able to build such fine compe-

titive spirit in his troops. This year they may very well end up with their best record in a long time. And if they play against Trinity like they did Saturday against Coast Guard they'll throw a good scare into the rulers of the eastern soccer world.

BATES GAME—From Page 4

Sledzik making hard timely tackles and Pokraka running hard and kicking well. Pokraka converted the extra points after both touchdowns and kicked off deep into Bates territory although he did miss three field goal attempts. At fullback, Dick Tufts played his usual errorless game. Tufts ran hard and played heads-up ball throughout the afternoon. At quarterback, Fred Duval directed the team smartly and Johanson ran well at halfback.



Just four years out of college...

He heads a team of 63 people

L. Dean Darbe graduated from Kansas State U. in 1955 with a B. S. degree in electrical engineering. Today he is Supervising Service Foreman for Southwestern Bell Telephone Company at Hutchinson, Kansas. Dean has five Foremen and 58 craftsmen reporting to him. He's got full responsibility—covering installation, maintenance, testing and repair—for 21,000 telephones and all the equipment that serves them.

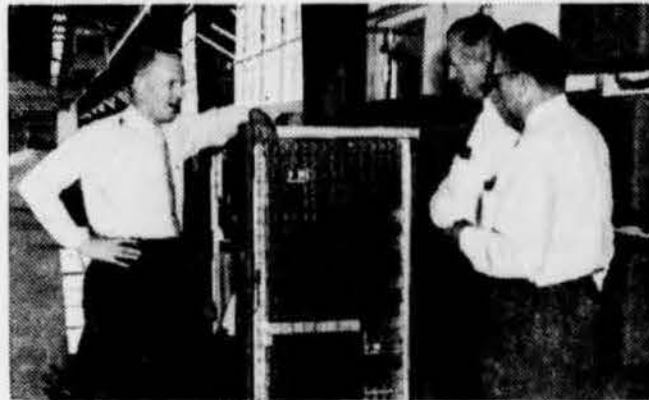
"It's interesting work," says Dean, "and it keeps me on the go. Here are a few of my activities during a recent day on the job."



"8:30 a.m. I meet with one of our Foremen at the plant garage to discuss a cable-pressurizing job. We're putting all aerial cable in Hutchinson under air pressure to keep out moisture which causes cable failure and costly service interruptions."



"10:15 a.m. My boss, District Plant Superintendent Fandy Barron, and I go over plans for an addition to our dial central office. Several pieces of large and complex switching equipment will have to be rearranged to tie in with the new facilities."



"1:30 p.m. After lunch, I drive out to the new plant of a mobile home manufacturer. My men are completing installation of a new-type cordless switchboard. I discuss features of the new equipment with the firm's Vice President and Plant Manager."



"3:00 p.m. At our toll center we'll soon be adding another test desk to increase our facilities for 'trouble shooting' Long Distance circuits. Here, with our Chief Testboardman, I go over some of the board changes which will have to be made."

"That's about it for one day. Tomorrow's schedule will be different. I'm doing interesting, challenging work all the time—and I'm given plenty of responsibility. That's what I like about my job."

There are countless young men like Dean Darbe who are moving ahead in supervisory careers with the Bell Telephone Companies. You could be one of them. Talk it over with the Bell interviewer when he visits your campus—and read the Bell Telephone booklet on file in your Placement Office.

BELL TELEPHONE COMPANIES



P.C.F. LOOKS FORWARD TO A GOOD YEAR

A relatively new student organization on campus has a goal as old as civilization itself. The organization—the Protestant Christian Fellowship; the

Electronics Display By AIEE & IRE

The combined student organizations of the AIEE and the IRE of Worcester Tech are sponsoring an exhibit of electronic control equipment to be on display soon. The exhibit is put on by the Superior Electric Corporation of Bristol, Connecticut. It will be on display Friday, November 6, between 10:00 A.M. and 3:00 P.M. in the parking lot beside the Electrical Engineering building. This exhibit should be of general interest to all students, and everyone is cordially invited.

The next meeting of the AIEE will be held on Tuesday, October 28, at 7:00 P.M. in the E.E. lecture hall. The planned program includes the showing of a new film of the Atlas missile put out by the Convair Astronautics Division of General Dynamics Corporation. New members are urged to turn in their application forms as soon as possible.

ANNUAL FALL VARSITY CLUB DANCE HELD

The Varsity Club of Worcester Polytechnic Institute held its fall dance, the Tech Touchdown, this past Saturday, October 17, 1959. The large turnout danced to the music of Bill LaPoint and his band. A very enjoyable evening highlighted the awarding of a dinner for two at Putnam & Thurston's and the Hickory House in addition to the presentation of several free passes to the local theaters. Prof. William Sellers provided another high point in the program with his singing and guitar playing. Prof. Sellers is an instructor in the W.P.I. English Dept.

The Varsity Club has done a fine job in making the fall dance a real success. The preparation and final execution of the affair was the responsibility of the entire Club under the supervision of Club President, Tom Caste. Colorful decorations followed the main theme of the current football season. Refreshments were also provided.

SEMINARS—From Page 1

January 19—"Developments in the Art of Steam Generation," by C. Freeman Hawley, Riley Stoker Corporation.

An Electrical Engineering Seminar was held Tuesday, October 20, at 4:15 in room 219. Dr. Walter G. Brennan, Assistant Group Leader, Communications Engineering Group, Lincoln Laboratories, spoke on "Propagation, Fluctuations, and Reliability of Radio Communications Systems. Plans for the remainder of the semester are not completed as of yet.

The Physics Department will hold bi-monthly Colloquium Sessions on Fridays at 4:15 P.M. in Room 214, Olin Hall of Physics. The following meetings have been announced.

November 6—"Nuclear Forces," by Dr. Arnold Tubis.

November 20—"Experiences with the NSF Program," by Professor Morton.

December 11—"Radio Field Mapping Across the United States," by Professor Howe.

January 8—"A Scattering Problem," by Dr. John C. Johnson.

January 22—"Some Philosophical Problems in the Quantum Theory," by Dr. Arthur Herschman.

goal—to bring men together in an atmosphere of religion and education. The Fellowship moves towards their objectives by holding convocations at which guest speakers deliver talks of a religious nature. Probably the most significant phase of the group's educational spirit is typified by the discussions which follow these talks.

Since May, 1957, when Joseph Ribero founded the organization, the Protestant Christian Fellowship has held regular meetings on the second Thursday of each month in the Janet Earle Room at Alden. As in the past two years, the membership this fall is constituted for the most part by eager Freshmen, but several of the thirty to thirty-five active members are upperclassmen.

Under the leadership of president

Don Cloud, the club has held two meetings this year, the more recent of which was a Worcester Area Council of Churches convocation on Sunday, October 11. From a seminary in Providence, R. I., came the guest speaker, Mr. Wheeler, who presented them with their challenge, or, as he put it, "Your Challenge." The members accepted the challenge and participated in a lively and informative discussion directly afterwards.

Plans are in the offing for this only Protestant religious group on campus. If the high hopes of Mr. Cloud and his staff of officers do reach fruition, members of the group may look forward to an exciting fall, religiously, culturally and socially, including meetings with many similar groups from city area colleges.

STUDENTS—From Page 3

Connecticut	181
New York	116
New Jersey	32
Rhode Island	23
Vermont	18
New Hampshire	13
Pennsylvania	10
Maine	8
Maryland	5
Delaware	3
District of Columbia, Florida, Hawaii, Tennessee	2
Alaska, California, Georgia, Illinois, Ohio, S. Carolina, Texas, Virginia	1
Thailand	6
Burma	4

Turkey	4
India	3
Korea	3
China	2
Colombia, Egypt, Greece, Haiti, Japan, Trinidad, Venezuela	1
This makes a sum total of 1097. Excluding the three hundred Freshmen who have not decided on a course, the students are divided into the following departments:	
Mechanical Engineers	192
Civil Engineers	153
Chemical Engineers	101
Chemistry	27
Physics	68
Mathematics	16
Electrical Engineering	268

engineers

and what they do at Pratt & Whitney Aircraft...

The field has never been broader
The challenge has never been greater

Engineers at Pratt & Whitney Aircraft today are concerned with the development of all forms of flight propulsion systems—air breathing, rocket, nuclear and other advanced types for propulsion in space. Many of these systems are so entirely new in concept that their design and development, and allied research programs, require technical personnel not previously associated with the development of aircraft engines. Where the company was once primarily interested in graduates with degrees in mechanical and aeronautical engineering, it now also requires men with degrees in electrical, chemical, and nuclear engineering, and in physics, chemistry, and metallurgy.

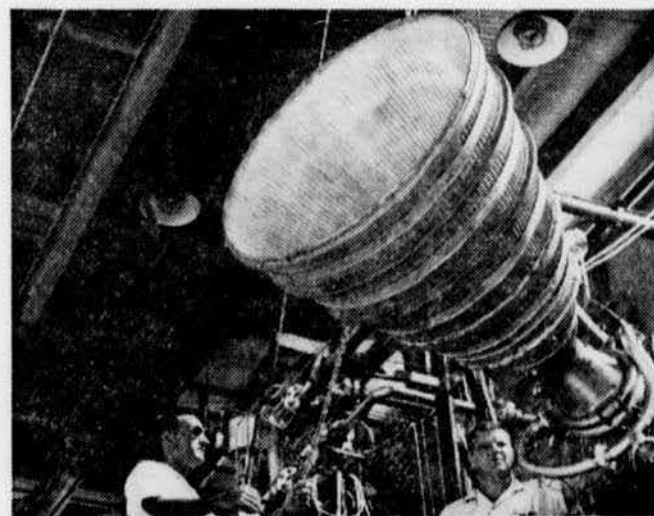
Included in a wide range of engineering activities open to technically trained graduates at all levels are these four basic fields:

ANALYTICAL ENGINEERING Men engaged in this activity are concerned with fundamental investigations in the fields of science or engineering related to the conception of new products. They carry out detailed analyses of advanced flight and space systems and interpret results in terms of practical design applications. They provide basic information which is essential in determining the types of systems that have development potential.

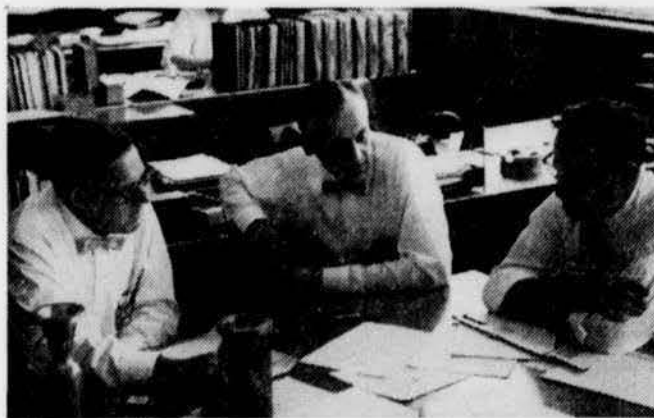
DESIGN ENGINEERING The prime requisite here is an active interest in the application of aerodynamics, thermodynamics, stress analysis, and principles of machine design to the creation of new flight propulsion systems. Men engaged in this activity at P&WA establish the specific performance and structural requirements of the new product and design it as a complete working mechanism.

EXPERIMENTAL ENGINEERING Here men supervise and coordinate fabrication, assembly and laboratory testing of experimental apparatus, system components, and development engines. They devise test rigs and laboratory setups, specify instrumentation and direct execution of the actual test programs. Responsibility in this phase of the development program also includes analysis of test data, reporting of results and recommendations for future effort.

MATERIALS ENGINEERING Men active in this field at P&WA investigate metals, alloys and other materials under various environmental conditions to determine their usefulness as applied to advanced flight propulsion systems. They devise material testing methods and design special test equipment. They are also responsible for the determination of new fabrication techniques and causes of failures or manufacturing difficulties.



Exhaustive testing of full-scale rocket engine thrust chambers is carried on at the Florida Research and Development Center.



Frequent informal discussions among analytical engineers assure continuous exchange of ideas on related research projects.



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For further information regarding an engineering career at Pratt & Whitney Aircraft, contact your college placement officer.