THE SCHOOL OF ENGINEERING AND ARCHITECTURE

TECH NEWS

CITY COLLEGE OF NEW YORK

VOL. XX — No. 5 | WEDNESDAY, APRIL 15, 1964 | STUDENT FEES

Engineer's and Architect's Day Exhibits Being Readied For Sat.

The first "Engineer's and Architect's Day" in three years will be held this Saturday, April 18, in Steinman Hall. The event will be open to the general public without charge.

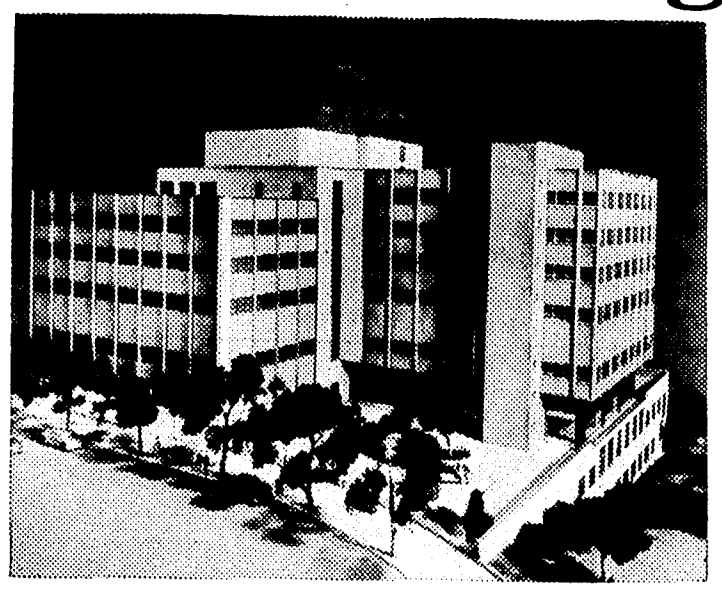
Supersonic turbines, 'electronic roulette," nuclear reactor operations, computer intelligence and closed-circuit television will be among the exhibits and devices demonstrated by students and faculty experts. Scores of student-built projects and up-to-date engineering equipment will be displayed in action.

Engineer's and Architect's Day will attempt to acquaint New York City residents with materials and methods being used in the engineering field today. High school students contemplating a career in engineering or architecture will get a preview of the specialized tools of their trade and their functions.

Among additional display highlights will be' "Man on the Moon," a graphic portrayal of the hostile lunar environment and means of overcoming it; a demonstration of the measurement of the speed of light; and analysis of human speech and hearing by means of tape recorders; oscilloscopes and computers.

More than one hundred students and faculty members are volunteering their time to conduct tours, build projects, and explain the machinery. More than two thousand visitors are expected.

Tours of the engineering facilities will leave from the lobby of Steinman Hall from 10 a.m. to 4 p.m.



Steinman Hall

Computer Course To Be Given To High School Students

By FRANCINE COURNOS and SHELDON ZAKLOW

A course in computer programming will be given next term to high school students enrolled at the College in a National Science Foundation sponsored program of science and mathematic study. This college, along with the other senior colleges in the City University, have been participating in this program for three years.

According to Professor Abraham Schwartz (Mathematics), administrator of the program at the college, the plan was intstituted "To encourage exceptionally bright high school students to study math and science. We use our laboratories to show them things they wouldn't normally see in their high school classrooms."

At present both summer and winter programs are being conducted. Summer students take six-week courses in mathematics and either physics or chemistry. Those attending the winter session can choose between Prof. Schwartz's course in Special Topics in Analytic and Projective Geometry and Prof. Jeanette Weston's class in Number Theory. The lectures are given on Saturday mornings, and in addition to the specific subjects mentioned, guest lecturers, who are usually famous mathematicians, speak on topics of their own choosing on alternate Saturdays.

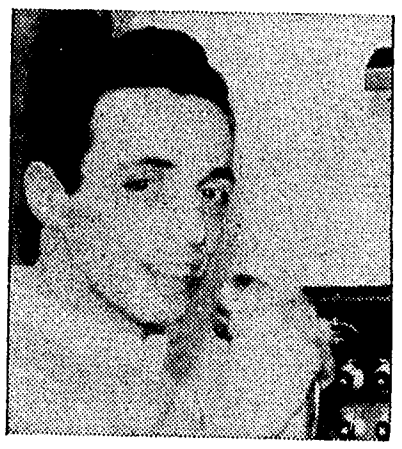
The new programming course, which is designed to give the students experience in machine computation, will use the College's new IBM 7040 Digital Computer. Professor Demos Eitzer of the Electrical Engineering department will conduct the lectures. Prof. Eitzer will teach students to program the computer for types of equations which do not involve a knowledge of the Calculus.

(*Continued on Page 2*)

EE Senior Wins IEEE Contest

By FRANK MARTINES

On Thursday, March 19, The City College Student Chapter of The IEEE held its annual Prize Paper Contest featuring technical papers. The first prize in this contest, which requires a fifteen minute oral presentation in addition to a written paper, was won by Anthony J. DiNardo '64 for his paper on "Instrinsic Two Channel Communication Systems." Second prize went to Larry Presser '66 for his presentation of "Micro-electronics"; a survey on the state-of-the-art.



Anthony DiNardo (K2SYJ) with his "ham rig."

Basically speaking, Mr. DiNardo's presentation dealt with communication schemes capable of two channel transmission without the use of time or frequency multiplexing. He began by graphically defining the underlying feature of these methods of communication, termed "The Quadrature Relation," through a set of mutually orthogonal axes which he introduced. He then drew the phasor diagram of each system on these orthogonal axes

(*Continued on Page 8*)

E & A DAY SUPPLEMENT
See Page S-1

New Programs Lower Dropout Rate

By NATALIE COHEN

Recent studies by the office of Curricular Guidance have indicated that the dropout rate from the School of Engineering and Architecture is about 60% during the first two years of school. There are many reasons for this, involving both students and faculty. Dean John R. White, (Engineering & Architecture), expressed several ideas about the factors involved and the measures being taken to combat this mortality rate."

Dean White expressed the following ideas about the possible causes of this problem: "From the faculty standpoint, many excellent teachers are 'moving up' from undergraduate teaching to graduate work and research. Every man wants to grow and develop; if he can elevate himself in the fields of graduate work and research he feels he will continue to progress. Many instructors also go on to administration."

According to Dean White the heaviest losses of the program occur in the freshman year with a 40% drop-out and a subsequent loss of 20% within the next two years. Dean White feels the reason for this is that in the past the Engineer Manpower Commission Freshman Orientation Program "were not worth the time and effort they cost." The dean feels it necessary for them to "try to get across to entering freshmen, aside from social activities, that the relationship between the basic courses of the first three terms of the engineering program and the more advanced classes such as E.E. 104 or C.E. 110 in which there is a practical application of the theories learned, must be understood. Because as soon as they take classes such as these and others like them there is a general trend towards better marks and greater enjoyment of the program. It is important to bridge the gap between theory and practice because many people who arrive at City have no idea of what engineering really means and they don't understand what they are getting into."

To combat these problems there are several programs in effect, and in planning stages for the Fall. Dr. Hickey of (Student Life) is in charge of the new program for the Fall. This program is built on the basis of training upper class students to represent each of the four engineering departments and architecture. The

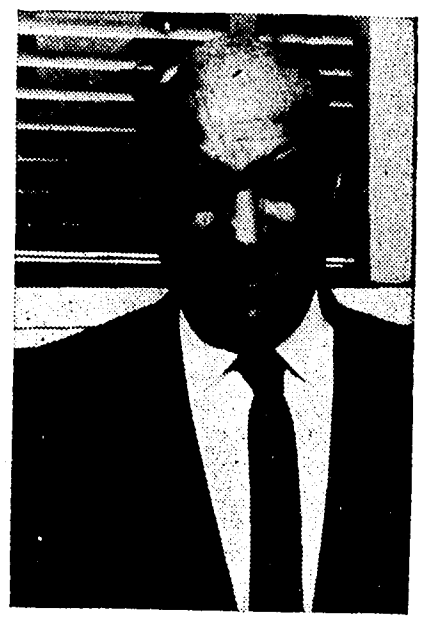
(*Continued on Page 2*)

New Probation Rules To Begin In Fall

By FRANCINE COURNOS

New regulations tending towards greater leniency for students on probation in the School of Engineering and Architecture will take effect this September. The new plan, submitted by Dean John R. White (Curricular Guidance), has received final approval from the School's Committee on Course and Standing.

The most far-reaching of the new rules is the broadening of the range of students on probation, allowing many students who would previously have been dropped from the school to continue as matriculated students on C+3 probation. These students will be limited to a maximum of 12½ credits. The new cut-off points for day session students, which are based on the pre-engineering and major field averages, are as follows:



Dean John R. White

Class	400	500	600	700	800	
No Action	0to-6	0to-5	0to-4	0to-4	111-128 Cr. 0to-3	Above 128 Cr. 0to-3
Probation without credit limitation	-7to-11	-6to-9	-5to-7	-5to-6	-4to-5	-4
Probation with *12½ credit limitation (new range)	-12to-15	-10to-13	-8to-11	-7to-9	-6to-7	-5
Non-Matriculated status	-16to-20	-14to-18	-12to-16	-10to-15	-8to-14	-6to-12
May not register for courses offered by School of Engineering and Arch.	Above -20	Above -18	Above -16	Above -15	Above -14	Above -12

In addition, a yearly check on probationary students will be initiated in place of the present system, which requires a check at the end of each semester.

According to Dean White, the changes were initiated because

(*Continued on Page 2*)

Steinman Laboratories To Be Altered In Fall

By JERRY SCHUCHMAN

Next fall the School of Engineering and Architecture will remodel the engineering labs in Steinman Hall. The purpose is to absorb the influx of new instructors and graduate students as a result of an expanding faculty and graduate school.

The change will enable research assistants and graduate students to work in designated areas in the various laboratories. These areas will be separated from the rest of the laboratory by partition walls.

The chemical engineering department, expecting to handle from 9 to 11 graduate students working on thesis topics, is taking steps to set up areas in a number of labs. The unit operations lab in T201 is expected to have set up four individual partition research areas measuring 10x12 ft. each. These will be used concurrently as office space and research area for research assistants. Additional space will be reserved as follows: 2 areas in measurement and control labs in H323; one area in unit processes lab in T326; and 3 areas in metallurgy furnace lab in T308.

The electrical engineering department, though not as ready as the chemical engineering department, has requested to make available additional office space. The plans call for setting floor to ceiling partitions at the east end of the servomechanisms lab as well as the east end of the power lab. One 200 square foot partition and one 600 square foot partition, both in the power lab, and one partition ranging from 250 to 500 square feet in the servomechanisms laboratory will constitute research areas for faculty and research assistants. The servomechanisms laboratory partitions will be used for faculty and the power laboratory partitions will be used for research assistants. In the northwest corner of the E.E. 112 lab, will be a research area of about 300 square feet.

The civil engineering magneto hydrodynamics laboratory in T205 is installing a one thousand ampere, two hundred kilowatt operation which will cost $2000 just to supply electric service to the area. The construction of a cooling water recirculation operation which ties in with fluid mechanics lab in cellar and the magnetohydrodynamics lab will cost $4000 for piping because most of the two hundred kilowatts will be dissipated into heat.

The mechanical engineering department has a modest request in that it is converting T32 into 7 research areas, each less than 200 square feet.

Dropouts . . .

(Continued from Page 1)

program, designed to cultivate leadership qualities among the students, includes weekly meeting held on Thursdays from five to seven. The students are instructed in group work techniques, career opportunities and various other topics and are prepared to pass on their learnings to the incoming students who will be broken up into small groups of fifteen or twenty.

To prepare the High School student for what he is to encounter there is an organization called "Jets" — the Junior Engineering Tech Society, which is a club that is set up for H.S. students interested in engineering. It is run by members of all College Engineering Societies, private company representatives and educators. Some of the activities aree projects, lectures, and aptitude tests, all designed to prepare the future engineering aspirants. According to Dean White, the merits of the organizations are becoming more apparent. They claim to have succeeded in reducing engineering drop-outs, with a lowering of the percentage from 60 to 33%.

There will be follow-ups on these proposed solutions when Dean White finishes compiling the statistics and data he is studying. Dr. Hickey's new program and its desired effects will be discussed in future issues of TECH NEWS.

Club Notes

IEEE

The IEEE will not hold a regular meeting this Thursday. Instead, all people participating in the EE Department's E-Day displays will receive final instructions and encouragement in a special meeting to be held at 12:30 in Steinman Auditorium.

* * *

RAILROAD CLUB

Railroad Club will beet in 206 Harris both Thursdays to discuss April 25 trip to New York City Transit Authority Training Center. All those interested in coming on this trip must appear at the club meeting to sign a waiver.

* * *

STAMP AND COIN CLUB

Stamp and Coin Club will meet in H014, on April 16, 1964 fo swap session. A number of facu members will be there. Every contributing to our display MU bring their material in.

* * *

ASCE

ASCE presents Dr. Jacob F speaking on "The Range of C Engineering." Thursday, April 1964. 12:30 p.m. Harris Au torium.

* * *

FANTASY AND SCIENC FICTION SOCIETY

The Fantasy and Science F tion Society will present The C inet of Dr. Caligari on April at 12:30 in 106W and 8:30 in 21

* * *

ETA KAPPA NU

On Wednesday, April 15, Kappa Nu will present a spea from the RCA David Sarnoff L The lecture will be in 424F at 5

* * *

BBC

Engineers interested in bro casting should come to BBC 332F. There is a shortage of tra ed personal at the present tim

Probation Rules

(Continued from Page 1)

"Engineering students are treated more sternly than those pursuing other degree objectives. They are the only group of students who have two averages to worry about. I felt the previous cut-off points were too stringent and that the range of students on probation should be broadened by setting up an additional group." This, he felt, would lead to a decrease in the drop-out rate, which at present is over 60%.

In his reference to two averages, Dean White explained that an engineering student must maintain a C-rating in both his overall average in pre-engineering and his major field average. Along with other City College students, if an engineer's over-all average reaches —15 at any time he will be dropped from the school. The pre-engineering average is computed on the basis of the first 45 credits completed in Chemistry, Physics, Mathematics, and Graphics. Upon completion of five or more courses in Architecture, Chemical, Civil, Electrical or Mechanical Engineering, a major-field average is computed based on these courses. This average replaces the pre-engineering average as a determining factor in probationary cases. As denoted by the chart, rules regarding these averages will still be more stringent than the rules concerning the overall average, which has —15 as a cut-off point.

Dean White said that the yearly check on average is being initial because 'In the past a thorough check was hindered by the lack of time between the Fall and Spring terms. The temporary absence of grades for some students allowed them preferential treatment. The new system will promote generally fairer treatment and will give an additional break to the student who has done poorly in the Fall Semester."

A check at the end of each semester meant that a student on C+3 probation was required to maintain a C-average plus three credits of B for the semester. Although the yearly check makes similar demands, a C-average plus six credits of B for the two semesters, a student who has not attained a plus-three in the fall now has a chance to bring up his average during the spring. As before, a student who receives a grade lower than "D", regardless of all other grades received during the semester, has failed to fulfill the conditions of his probation.

The same regulations will go into effect for matriculated evening-session students. Non-matriculated students, however, will find that regulations have been tightened as follows: Engineering students have been the only group automatically allowed to attend evening-session as non-matriculated students when dropped from the day-session. Many students will, with the addition of the new probation group, remain matriculated, but now those who do fall into the non-matriculated range will have to be screened and approved before they are allowed to attend evening session.

Computer Course

(Continued from Page 1)

Admission to the NSF program is a highly selective process and in the past as few as one out of every fifteen applicants were accepted. Application is made through high schools in the Greater New York area, each of which is permitted to submit the applications of two highly qualified students. Of these applicants 240 are selected and 60 are sent to each of the senior colleges of the City University.

The program costs the NSF about $40,000 for the entire CU, and Professor Schwartz said that "If we get one very able student to grow to be a very able mathematician instead of falling into a socially less useful occupation, the government's money will be very well spent."

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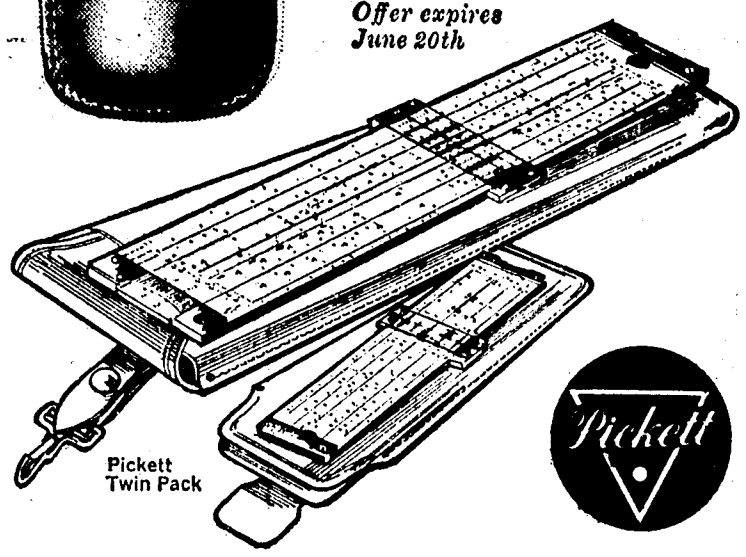

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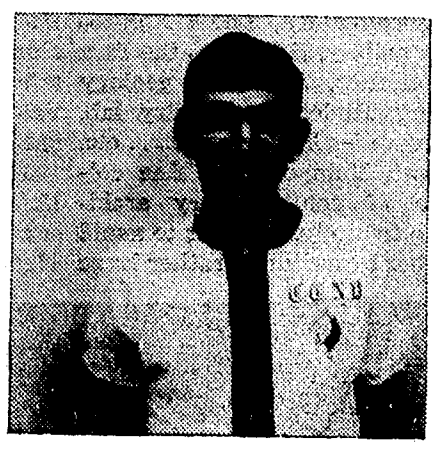

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M-W-TH Eve: 5:30-8:45 PM

ARCHITECTURE

By ENOCH LIPSON

In 1903, the city of New York retained George B. Post as the architect of the new home for its fifty-six year old free college. Working within a budget of four million dollars, he designed the graceful, English buildings of North Campus. Styles have changed, but skillful design is always recognizable. Sixty years later the dark strength of the Manhattan Schist is still emphasized by the crisp delicacy of the white terra cotta trim. The Great Hall still has its grandeur, and the doors and wood paneling their careful detailing.

Saarinen's Morse College Dining Hall (Yale University)

It is disheartening to observe that each of the later additions has consistently failed to approach this original standard. Lewisohn Stadium deserves no comment, and the Society of the Sacred Heart is responsible for South Campus. The real villains are the designers of the Administration building and Steinman Hall, those two clots of glass on either side of the graceful massing on Shepherd. It seems strange that the same city which asked for the finest when first constructing this campus should now be willing to settle for shoddy copies of commercial structures. I think I would rather have a school look like a church, then the Tishman building.

Fine structures are still being built. During a Fall term trip by the Architecture 103 class, led by Professor Hanford Yang, some of the newest buildings of Yale University were visited. The list includes work by some of the most important names in American architecture, Louis Kahn—an art gallery, S.O.M. — the rare book library, Johnson's geology building, Rudolph's forestry lab, Saarinen's ice hockey rink . . . etc. In short, Yale offers a fine collection of contemporary architecture to study. In order to avoid the labor of writing a rather large book, this article will be arbitarily limited to the Yale School of Art and Architecture by Paul Rudolph, and the Ezra Stiles and Morse Colleges by the late Mr. Saarinen.

Mr. Rudolph's building is constructed of reinforced concrete. The exterior surface is closely textured with ridges two inches on center. The surface has been hammered and brushed to make the coarse aggregate shine through. Interior walls are of a number of materials; concrete, glass, and cinderblock both painted and bare. Rough surfaces are used in the larger spaces, but the walls of narrow corridors and smal rooms are smooth to avoid making passage uncomfortable.

Walking through the building is a delightful experience. There are surprises at every turn and there are many turns. Design rooms border on small unexpected courts. Small corridors break into enormous halls. Doors framed in massible concrete block walls open into glass walled offices. Almost every room, indeed every space is charming. Every room has been designed, not squeezed into a predetermined shape. There is a small one hundred person auditorium which is as intimate as two persons in a phone booth. There is an exhibit hall large and impressive enough to make people speak in whispers.

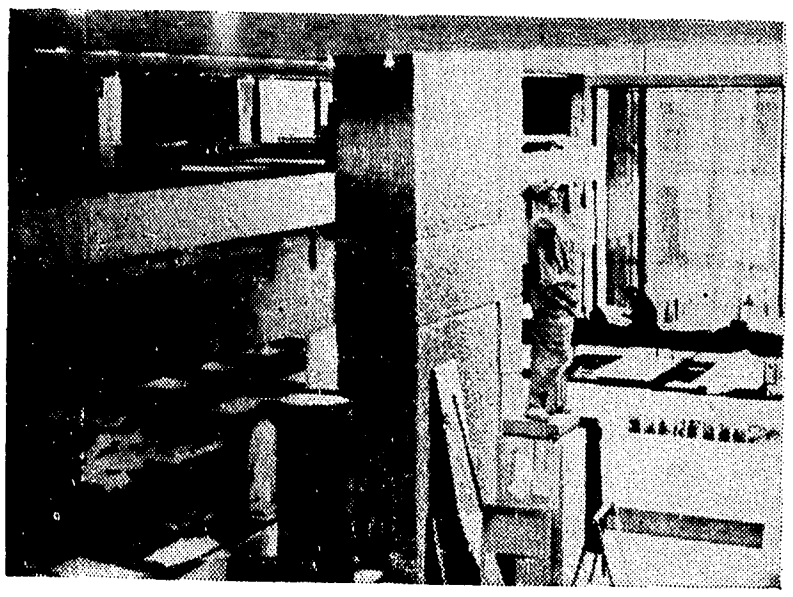
This is a building which works both physically and emotionally. It apparently operates well as a design building. Posted in a corridor was an illustration board on which the students were to write their complaints about the new building. The only one above the order of requests for better toilet paper was a plea that "the damn tourists should be kept the hell out." It seems a good building to work in. The presence of beauty is always better than the lack of it and the structure, as a work of architecture, as a sculptural form, and as a balanced design, is beautiful.

Ezra Stiles and Morse Colleges are a group of small dormitory buildings designed by Ezra Saarinen in 1958 and completed in 1962. They fit into a corner of the campus bounded on one edge by Broadway, a wide commercial street, and on the other, perpendicular side, Tower Parkway, a quiet street which runs back a few hundred feet and then gently, in a soft semi-circle, swings parallel to Broadway. On the fourth side lie a gothic-type graduate school and other vaguely medieval looking buildings (not separated by any intervening streets).

The Yale CO-OP store and the Ezra Stiles Master House and tower shield the students' residences from the noise of Broadway while maintaining the urbanity of the street. The other buildings, dorms and two dining rooms, rest leisurely behind them, with the two dining halls almost back to back (separated by an irregular path) forming the bottom of two "U"s, each asymetrical and each swinging loosely at the corners. In order to retain the small scale of the neighborhood, the individual units are small. Only the towers, reminiscent of the Gothic forms in the background, rise more than four stories. All the buildings are of concrete bearing wall construction. The walls are heavy massive and natural looking with again a rough brushed surface. Windows are formed not by puncturing a wall, but rather by leaving a space between two adjacent ones. Each of the rooms (mostly singles) has one window which stretches from slab to slab. The result is an intimacy unusual in dormitory living. There is a warmth to the irregular nooks and crannies of this site which would not exist near the traditional factory-like dwelling. This intimacy exists by choice, by concious thought and decision of a master architect.

The architect, although he draws in two dimensions, must think in three. He is a designer of volumes, not areas; spaces, not surfaces. This is especially evident in the dining areas. They are high ceilinged rooms flooded in natural light on one side and fading into shelter on the other. Again the designer has manipulated the space in order to create an intimate atmosphere, much unlike the City College Dining Rooms as the Rainbow Room is from the Automat.

Mr. Post, Mr. Rudolph, and Mr. Saarinen created environments. They designed structures which are greater than the sum of the concrete, stone, and steel of which they are made. Their design was reasoned and the reasoning good. Their intent was to build the best, and if they did not succeed, certainly they came closer than the architects of the Administration Building and Steinman Hall.



Yale School of Art and Architecture Interior

Blood Bank Due To Begin Drive

This term, The City College Blood Bank once again urges all students and members of the faculty to contribute blood. Anyone between the ages of 18 and 59 can give blood but students between the ages of 18 and 21 must have a parent's consent form signed unless they are married. Appointments can be made between April 20-24 outside the Cohen Library, Knitlle Lounge, or 152 Finley. It is not necessary for the faculty members to make appointments. They will be accommodated immediately so that there need be no concern about class hours.

Giving blood is **simple** and **painless,** and should it be found that a donation would be detrimental to your health, then you would not be allowed to do so. Each donor will be served his choice of coffee, orange juice, or milk with some cookies immediately afterwards.

Blood is free to all members of the City College community and their families. This, of course, includes not only the students but also the faculty, the office staff, and library staff, the custodial staff, and everyone else in the City College community. If at any time you or a member of your family should need blood you need only call Dr. McCann of the Department of Student Life. During hours when the school is closed you can call the Red Cross.

Carnival Marks 25th Anniversary

This year will mark the 25th anniversary of House Plan Associations Carnival. The theme will be "Carnival D'Amour" and will be held on May 2 on the South Campus lawn.

Rose Rhodes, Ellen Tafel and Naomi Weinger heads the Carnival committee, have many lively and interesting activities planned to publicize the Carnival, among these are:

On April 16, a scavenger hunt will be held on North Campus at 12:30 to 1:00. The articles of the hunt, all marked by an "H.P.A.", will be hidden around the campus. Anyone who wants to participate in the hunt will meet at 138th St. and Convent Ave. at 12:30 to receive their lists of 15 hidden items. Shopping bags will be given out. The winners will be announced April 23. Two tickets to Carnival will be the prize.

On April 23 a Parade starting at 12:00 at 140th St. and Convent Ave. and ending on the South Campus Lawn (bring your girl along) will contain clowns, gaily decorated floats, bands, individuals, and banners. A highlight of the parade will be a horse donated by the Carnival Publicity Committee.

On April 30 there will be a sing out on the South Campus Lawn. All songs will be composed by talented H.P.A. members and guitars will be provided.

May 2 is the big day when Carnival will take over the City College with booths knee deep on the South Campus Lawn with names such as, "Aim of Love," "Love is a Wet Blanket," "I Want to Hold Your Hand," "Bagel Bored of Love and "Perfect Baby." There will also be a show given by the Musical Comedy Society and a sing out on the Lawn. Tickets can be obtained in 317 Finley.

VECTOR Edit Makes Good

By KEN SANDLER

Extracurricular activities pay off, and sometimes in Lawrence Presser, co-edito **Vector,** has been offered a po at CBS Laboratories for this mer as a result of an a which he wrote for the Ja '64 issue of **Vector.**

The article, "Molecular Ele nics," a survey article on theoretical aspects of el technology, is entered in I.E.E.E. Metropolitan Area test. The top prize in this contest is $200. The contest w held at the college on May Last year, another of Pre articles won third prize i I.E.E.E. contest.

Every issue of **Vector** is se one of the 300 member c publications of the Engine College Magazine Associatio is also sent to the personnel agers of every company might possibly hire a CCNY neering student.

Mr. Presser was pleasantly prised when he received a from the personnel director CBS Labs, a subdivision o Columbia Broadcasting Sy stating that CBS Labs had his article and would like h consider a summer engine position with their Stamford, necticut Laboratories.

Larry was interview by only last week and he expec offer in the very near future.

IEEE Contest

(Continued from Page 1

and proceeded by proving Quadrature Relation to be mon to these systems and each was capable of two cha transmission. From the pl diagram of each system, he devised methods for the reco of the information in each o two channels with no cros between channels. In additio his analytical proof, Mr. DiN has performed extensive ex mentations that have conclu ly proven his systems to be v able.

Both Mr. DiNardo and Presser are now eligible to pete in the IEEE New York regional Prize Paper Co which will be held on Ma 1964, here at the College.

Engineer's & Architect's Day—1964

TECH NEWS

Special Supplement

Letters Of Welcome

rom The Dean:

This is the first time in three years that we have had an rtunity to hold an OPEN HOUSE in the School of Engering and Architecture. Meanwhile, we moved into Steinn Hall, our new building, with the most modern laboras to be found anywhere. We are in the forefront of a t scientific and technological advance — we look beyond horizons; much that our future holds is literally "out of world."

We welcome our friends, high school students and their nts, guidance counselors, and industrial representatives e what our work embraces and to talk with our student staff.

We hope that they may share our excitement in the dless promise of engineering in the years ahead.

William Allan, Dean

l 18, 1964

rom The E & A Day ommittee:

The combined Student-Faculty committee of Engineer's Architect's Day extends to you a cordial welcome. We are emely happy to have this opportunity to introduce you ur school.

Those of you who are planning on studying engineering rchitecture will have a preview of your college career. hope that you will take advantage of us by consulting guides or faculty members about your individual lems.

We especially welcome the parents and friends of our ents.

At this point we would like to extend our warm gratitude appreciation to the many members of the faculty and who have given freely their counsel and assistance.

Judith Goldberg
Robert Amantea
Co-chairmen

Herb Geller
Publicity director

Faculty Committee

Professor Henry S. Meyers, Chemical Engineering —Chairman
Professor John J. Deans, Architecture
Professor Edward Keosian, Civil Engineering
Professor Irving M. Meth, Electrical Engineering
Professor Hugh Burns, Mechanical Engineering
Captain James Metalios, Military Science

Student Committee

Howard Kaplan, Architecture
Roy Terner, Chemical Engineering
Marvin Schenkler, Civil Engineering
Michael Witlin, Electrical Engineering
Robert Tutelman, Mechanical Engineering
George Heymack, Military Science

This supplement was prepared by the staff of TECH NEWS, the student newspaper of the School of Engineering and Architecture. We acknowledge gratitude to Herb Geller and the E & A Day committee for their valuable assistance.

History Of Steinman Hall

Up until two years ago, the laboratories of the School of Engineering and Architecture were scattered throughout the North Campus quadrangle; in Shepard Harris, Gothals and Compton Halls. With the opening of Steinman Hall, the school had a place for all its laboratories.

The need for a new engineering building was reported by President Gallagher and Dean Allan as early as 1952. The design and planning of the building was done between 1952 and 1955, with each department submitting its estimate of space needs for the next twenty years. Construction of the building itself started in

(Continued on Page S-3)

Dean William Allan

Tech Mural Shows History Of Science

The mural in the lobby of Steinman Hall depicts the technological progress of man through the ages. It consists of ten panels in chronological order from the formation of our galaxy, to the wheel, to alchemy, then on modern chemistry, nuclear physics and finally a sense of infinity.

Superimposed on this are the symbols of the nine planets and the sun cast in bronze and steel.

The mural was donated by the Engineering Alumni and friends of The City College after it was learned that although space for it had been provided in the building plans, the necessary funds could not be included in the building appropriations.

The mural was designed by Xavier Gonzalez, a native of Spain, who received his art education at The Art Institute of Chicago. Among the institutions that exhibit his work is the Metropolitan Museum of Art in New York.

Installed in February 1963, the mural is truly a credit to the College and its Alumni.

CCNY: Keeping Pace With The Times

In 1916, the airplane was in its infancy, space travel was a figment of H. G. Wells' imagination, and the atom was considered the smallest particle of matter. The electric light, the automobile, and the telephone were luxurious gadgets.

It was in 1916 that the Board of Trustees initiated a curriculum leading to the Diploma of Junior Civil Engineer as an evening session course in the Division of Vocational Subjects and Civil Administration.

Engineering developed rapidly and so did C.C.N.Y. Three years later, in June 1919, the School of Technology was established with four engineering courses leading to the degrees Chemical Engineer,, and Mechanical Engineer, in addition to the degree Bachelor of Science in Engineering. After June 1936 the degree Bachelor of Science in Engineering was replaced by the degrees Bachelor of Chemical Engineering, Bacheler of Civil Engineering, Bachelor of Electrical Engineering, and Bachelor of Mechanical Engineering. A graduate division was established granting master's degrees in all four branches as well the degrees Master of Science.

In February 1961 the Board of Higher Education approved a five-year curriculum in architecture with instruction begining September 1961. This curriculum leads to the degree of Bachelor of Science in Architecture at the completion of the first four years and Bachelor of Architecture after the completion of the fifth year.

In September 1961 the name of the School of Technology was changed to the School of Engineering and Architecture in keeping with the change in curriculum.

In 1961, The City University of New York was established by

Dr. Buell G. Gallagher, President of City College

action of the Board of Higher Education of the City of New York, and the Legislature, and the Governor of the State of New York. As of September 1963 doctoral programs in Engineering were authorized.

As engineering developed and expanded in scope, the CCNY curriculum kept pace with it. As the nation's engineers elevated engineering to a respectable profession, CCNY became one of the most highly respected educational facilities in that profession. In spite of its rapid growth, its basic tenets remained unchanged: A well rounded education for any student showing merit, regardless of race, creed, sex or means.

Steinman Hall Mural, depicting the history of science and technology, from the formation of the galaxy to the nuclear age.

TECH NEWS

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To The Future

E-Day is a tradition but this E-Day is something special. Many things have come to pass, both in the School of Engineering and Architecture and in the role engineering and science are playing in everyday life, over the past several years. Advances in technology are being made at a rapid pace and it is in keeping with this pace that we believe this E-Day should be a portend of things to come. Never, though, should one overlook what has been accomplished here by a tradition started in 1847 — free tuition.

Steinman Hall, the new engineering building, has made life easier for the engineer at the college, but inherent in this new life has been the realization that modern technology is highly complicated — too complicated to fully comprehend in five years of undergraduate study. The new laboratories, some still being equipped, made the latter impression on us. Where expansion was stifled in the past by a lack of space, expansion now becomes possible through Steinman Hall. The new equipment bought us a little closer to the realities of modern day research and industry; this was not entirely possible in the past, but nobody ever got an inferior education at the college.

As if by some magic formula, a doctorate program was approved for the engineering school soon after our new building was completed. Prior to this, however, the school was given permission to grant a degree in architecture, and the school took on a new name. Architecture, a doctoral program, and Steinman Hall have revitalized and added impetus to the school. It is something that has affected everybody in his own way; we were going to keep in step and modern technology.

Where will science and engineering eventually lead us? Many reply with the platitude, "an easier life." Quite possilbly, but the anxieties expressed by many of our leading scientists and political leaders, whether right or wrong, should make us pause and consider several questions. Is an automated society the venerable utopia we really want and in particular, affecting us directly, is the question of what role should the engineer play in all this? He will play a leading role; but is the engineer truly prepared to accept the responsibility of his position?

Architects attempt to combine the arts and engineering to arrive at a solution to their problem. As engineers, we may be forced to use similar techniques. We believe that the new graduate programs and the facilities of Steinman Hall will provide us with a better understanding of the complexities of modern life.

Letters To the Editor

To the Editor:

If I can stop the twitching of my mouth, which someone tells me is what happens when an instructor tries to smile, I want to tell you how much I have enjoyed your April Fool's number.

For years such japes have been perpetrated on us at CCNY and only too often a couple of the japers have been booted for two reasons: they were not funny; and they were dirty.

Your number gets an A on both counts: you are funny again and again, and, you are not dirty. If you can catch the guy who did most of the writing I suggest you preserve him in amber, for in my 33 years at the College we've had nothing quite like it — him.

But really, do you think there is a place in engineering for such a guy? Suppose he starts monkeying around with the slide rule!

Professor William Payne, English

* * *

To the Editor:

On behalf of Alpha Phi Omega I would like to thank you for the consideration your paper has shown to us on numerous occasions by publicizing our service projects. In particular I wish to thank you for the space you alloted to us in the last edition of TECH NEWS publicizing the trip to Stratford, Connecticut.

Many thanks again.

Stuart Rosensweet

* * *

To the Editor:

Congratulations on today's issue. I enjoyed everything in it, especially the "Letters to the Editor" column. I look forward to your next April's issues, which I assume will be published in December.

Barry Starkman

Departments Have Numerous Exhibits

The Chemical, Civil, and Mechanical Engineering Departments will be a big part of the E-Day demonstration.

Chemical Engineering Dept.

The Chemical Enginering Department wil have some of their exhibits in operation while others will just be shown. The following table shows the exhibits in operation (demonstrations), the exhibits that will just be shown, and there locations. The demonstrations are being coordinated with the aid of the American Institute of Chemical Engineers.

Unit Operations Lab (201) — Distillation Column, Extraction Column.

Unit Operations Lab (301) Dryers, Jaw Crusher.

High Polymer Lab (303) — Colloid Mill, Nylon Rope, Plastic Extruder, Scott Tester.

Analog Computer Lab (320A)— Analog Computer.

Process Measurement Lab (323) —Capacitone Sensor, Control Valve, Liquid Level Control, Pneumatic Analog and Sine, Wave Generator, Pyrometry.

Unit Process Lab (326)—Packed Distillation, Column.

Furnace Lab (408) — High Frequency Furnace, Process Reactor.

Microscopy Lab (410C) — Metallurgical Microscope, X-Ray Film Measurements.

Civil Engineering Department

The Civil Enginering Depart-

(Continued on Page S-3)

Inquiring Technographer

By CHARLOTTE KAUFMAN and JERRY SCHUCHMAN

QUESTION: If you were a freshman again and knew of the present employment situation, would you have gone into engineering?

WHERE ASKED: North Campus-Steinman Hall.

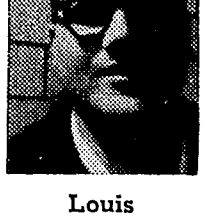
ROBERT PFEFFERMAN, Upper Senior enrolled in electrical engineering 807, Queens: "I probably would. I did not choose to enter engineering because of possible financial rewards, but rather because I thought I would enjoy the type of work done in this field."

Robert Pfefferman

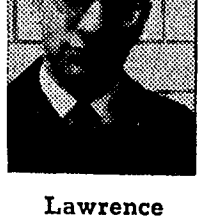
Larry Rosenberg

LARRY ROSENBERG, Upper junior enrolled in electrical engineering, Queens: "The present employment situation would not alter my decision to enter the field of engineering. This is because the employment situation is constantly changing. The situation at the time of graduation is unpredictable before or during one's freshman year. Therefore a freshman has no idea of his employment possibilities at graduation and should base his decision to become an engineer or more "noble criteria."

LOUIS RUBENSTEIN, Upper junior enrolled in mechanical engineerirng, Bronx: "When I entered college I wasn't sure what I wanted. I thought that I could do the work in engineering, would like it, and that the job outlook was good. I felt that the pre-engineering curriculum was broad enough so that I could change my major without losing much time. I drifted along; if I had to do it over again I would be more likely to choose one of the other sciences."



Louis Rubenstein



Lawrence Presser

LAWRENCE PRESSER, Upper junior enrolled in mechanical engineering, Manhattan: "When the students who take their mother's lunches to school with them decide that, upon graduation from this institution, it is time for them to leave the old apron-strings and the climate which does not permit indulgence in such activities as motorcycling, they will find little trouble in obtaining employment, the type of employment they want, if they know exactly what they want and seek it out. I know the industrial circumstance — I am well informed of the relationship of government contracts to job opportunities. As for my consideration in regard to engineering if I were a freshman again, I guess I won't stop having second thoughts about the whole thing until I'm through with it."

MICHAEL P. DUNNE, Upper senior enrolled in electric engineering, Brooklyn: "It is hard for any freshman, except those who are remarkably clearheaded and farsighted and with absolute confidence in their own ability to form any definite plans for his or her own future. One purpose of a college education is to expose individuals to a bit of all the disciplines so that a choice can be made in a field they have an interest in. No one should choose a field solely for the purpose of financial reward for their endeavors. Unless a definite feeling for their chosen field exists, it is highly improbable that they will be successful in it. But entering freshman should not be discouraged from studying engineering merely because job opportunities are presently limited. Graduating seniors have been assured that the situation is only temporary and that there will always be a need for people trained in the engineering field. There is also a need for such people in areas other than those directly related to engineering, specifically sales, management and personnel relations. There will always be someone somewhere who is in need of your specific talents."

Michael Dunne

Lewis Meixler

LEWIS D. MEIXLER, Upper senior enrolled in electrical engineering, Queens: "If I were an entering freshman, I would definitely study E.E. in spite of the current employment situation for several reasons. First, the present employment situation is most likely only temporary, and it is the general concensus that it will improve. Secondly, one's choice of profession must be dictated primarily by his own personal goals, abilities, and love for the field in which he will be spending a major portion of his life. Thirdly, an education in Engineering gives the student a broad and practical view of many fields, thus the engineer has a wide choice of fields into which he may eventually work. I thus feel that the present employment situation should be of minor consideration to someone planning to enter the field of engineering."

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Lewis Meixler

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E Displays Will eature Television

electrical engineering dis- for E-Day will be centered departmental labs on the floors of Steinman Hall.

electronic exhibits will be ed on the fifth floor in the unications and measure- labs. An example of the attention getting displays to re, is an electronic counter will accurately count the in the room at any time.

big feature, also in elec- s, will be a "see yourself on demonstration. By means of circuit television the pic- of whoever is standing in of the camera will be d to set located at various throughout the school.

re will be a bio-medical onics display which will tap lectric power of the human us system by attaching two to the body and, after being to an amplifier, will control ll model car.

e of the laboratory techni- will demonstrate some of latest designs in oscilliscope rns. By means of various cir- concoctions he will produce interesting and perhaps tic" waveshape patterns on screens of the laboratory s.

ong the demonstrations that require "audience partici- n" will be a capacity oper- relay in which a human be- will act as a condenser to lete a bridge circuit and ac- some electrical device.

ong the other electronic ex- ents to be shown are the ving: a demonstration in the sis of human speech and ng; a time multiplexing sys- perated on two channels; a system that will bounce a wave off a parabolic mirror; an experiment in the modulation of light; square wave testing of an HF amplifier; a reverbiration chamber; a Forlihly telemetering system controlled by servomechanisms; and a human reaction time tester.

To satisfy the gambling enthusiasts an electronic roulette wheel will be on display.

On the sixth floor tours will be conducted through the servo lab. Visitors will be able to view the college's TR201 analog computer in action. The computer is located near the servo lab in a special air-conditioned room which in addition to the computer contains a maze of accessory equipment.

The fourth floor power lab will be set up to show the operation of various types of electric machinery. A synchronous machine-DC machine MG set, an induction motor and a magnetic amplifier will be shown in operation. There will be demonstrations on starting these machines, as well as running conditions.

Tours will be conducted through the lab with the purpose of giving visitors "a general idea of what we do here in the power lab," according to Professor Echtman (EE).

For the most part the demonstrations were conceived and will be set up and conducted by groups of EE students. Displays by organizations such as The Amateur Radio Society will also be shown.

The E-Day offerings of the EE department should prove educational and interesting to both the technically oriented, as well as the casual observer.

Sanitary Experts Come To College

By JERRY SCHUCHMAN

"The Training Program of the Robert A. Taft Sanitary Engineering and Architecture to bring the professional and technical personnel in the Eastern part of the United States an important group of courses in environmental sciences and engineering," according to Dean Vincent Deltoro. These courses are normally given only in Cincicenati.

The program is presented in cooperation with Public Health Service Region II for the benefit of those who, because of professional duties, are unable to attend the courses in Cincinnati.

The five courses began on April 6 and will end on April 17. Descriptions of the courses are as follows:

"Radioactive Pollutants in the Environment" — This is an introductory course designed to provide professional health personnel with the basic technical knowledge essential for work in the field of environmental radiation surveillance or analysis of environmental samples. Instruction begins with the basic nuclear physics necessary to enable the trainee to define the quantative units and terminology used in the field of environment radiological health problems; to understand and discuss the behavior and effects of radioactive pollutants in the environment; their sources, movement, distribution, and biological effects; to perform calculations relevant to radioactive decay and radiation dose and the application of radioactivity concentration guides; to understand the meaning and purpose of radiation protection guides and to apply them to the intake of radioactive materials.

These capabilities are developed in lecture periods and in laboratory and problem sessions, the last two comprising approximately a fourth of the course time.

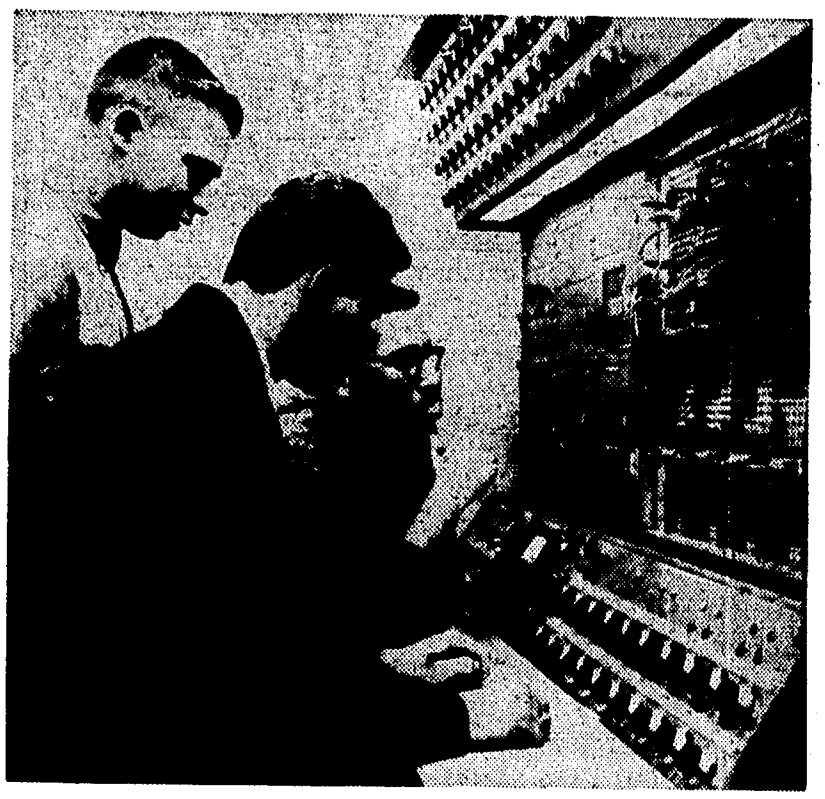
"Control of Particulate Emissions" — Engineers interested in developing a working knowledge of particulate control device will find this course of professional value. They receive instruction in basic concept relating the properties of particulates to their removal mechanism. Based on this knowledge, trainees are enabled to select the type of control equipment best suited for specific applications, develop preliminary designs for proposed installations, and analyze operating units for performance characteristics. In problem sessions they apply the concepts and techniques presented and assess the scope and value of the training.

"Elements of Air Quality Management" — Training designed to supply technical personnel with the tools and concepts fundamental to efficient use of the atmosphere is presented in this course. Instruction, directed to this objective, enables the trainee to develop emission inventories, evaluate local climatic and topographic problems, select appropriate sampling instruments, and discuss the principles involved in establishing air quality and emission standard.

"Water Quality Studies"—This course is designed for engineers and scientists having responsibilities in the planning and execution of water pollution surveys. In lectures, demonstrations, and panel discussions, trainees are instructed in the interrelationships of the chemical, biological, macteriological, and engineering factors involved in a water quality study, to enable them to evaluate the parameters of water quality criteria, including the applications and limitations of each. On a field trip to a local site, the trainees engage in all phases of a polution survey, from planning and organization, operation, sampling and analysis, and interpretation of data to the preparation and completion of a survey report. Consideration, during the survey, will be directed, if possible, to the study of a pollution problem typical of this region.

"Institutional Sanitary Food Service" — This course is offered for sanitarians and key administrative personnel responsibile for food service operations in institutions, especially in schools, hospitals, mental institutions, and nursing homes. Instruction is designed to enable the trainees more effectively to apply the fundamentals of food service sanitation, as recommended in the 1962 PHS Food Service Sanitation Manual in the training of others in sound principles of food protection.

A portion of the program is devoted to food service operations. The class will be divided into 4 task groups according to their individual interests. Each task group will work on certain problems and prepare a summary of its recommendations for presentation to the assembled class.



Students are using a $100,000 electronic analog computer in the sixth floor Servomechanism laboratory.

Departments Have Numerous Exhibits

(Continued from Page S-2)

t exhibits and their locations listed below.

uid Mechanics Lab — Decom- tion of Asphalt Parement, in progress, completed test. e showing Hydraulic Jump other phenomena. Pelton el, Venturi Meter, Air Flow ugh Pipes, Wind Tunel.

terials Testing Labs — Com- ssive and Flexural Tests on d, Tensile Test on Steel, Com- ssive Test on Concrete.

nitary Engineering Lab — gulation, Decoloraization, Fil- g.

il Mechanics Lab — Quick- Experiment.

chanical Engineering Dept.

e Mechanical Engineering rtment Exhibits and their lo- ns are listed below.

eory of Experimentation (11) Speed Measurements, Desk ulations, Pressure Measure- ts, Spring Vibration, Ther- metry, Measuring to C.000010".

hermodynamics (9) — Kinetic ory Model, Boyles and Charles

anufacturing (35) — Lathe, ng Machine, Shaper, Drill ss, Borer.

llurgy (32b and 33) — Prepar- n of Specimen, Projecting Mi- scope.

asement) — Gasoline Engine, lear Reactor.

as Turbine Room — Turbine, ersonics.

e Department of Architecture Graphics will feature projects gned by students in the design sequence. These projects cover a wide range of subjects from individual's homes to area development projects, to town plans; from commercial buildings to municipal building plans. Models of these projects will be exhibited and the student designers will be on hand to explain their design concepts. There will also be an exhibit of new building materials.

ART EXHIBIT

Tau Beta Pi, the National Engineering Honor Fraternity, will present an exhibit of original art work done by students and faculty of the School of Engineering and Architecture. This art work, consisting of both oils and watercolor, will be displayed on the mezzanine floor of Steinman Hall. This floor overlooks the main lobby and is accessible by way of the staircase near the escalator in Steinman Hall.

MILITARY SCIENCE

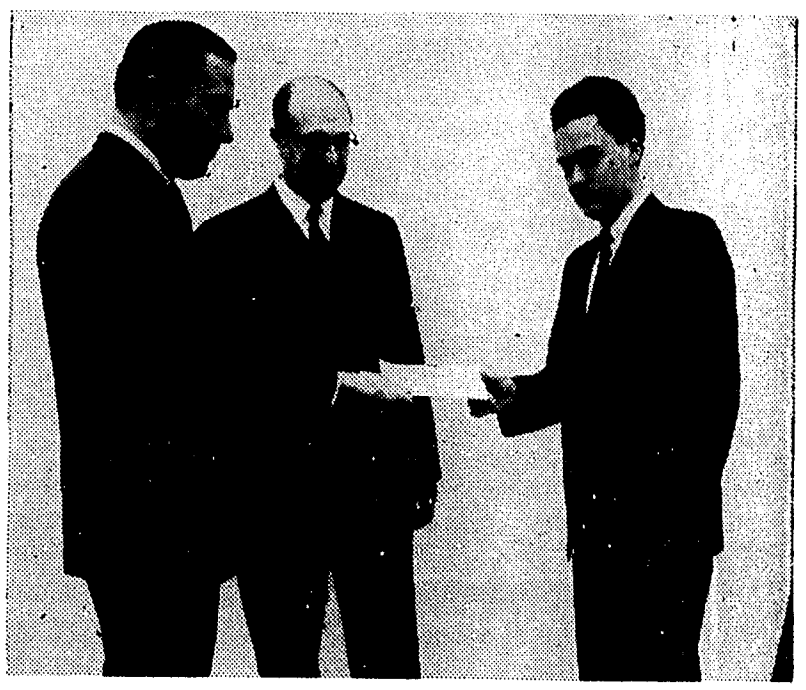
The Department of Military Science will present several exhibits showing the role of engineering in the operations of the Army. Movies of the Army's satellite program and other programs will be shown in the lecture hall, T123. Other exhibits by this department include "Man on the Moon," a mock up of the moon's surface which shows the different hazards that the U.S. will meet upon landing on the moon. This mock up is a small scale replica of the United States Army's exhibit at the New York World's Fair, which will not be open to the public until next Wednesday.

The Student Chapter of the American Institute of Aeronautics and Astronautics will show films of the U.S. Government's rocket and satellite program for space exploration. These films will be shown in T053, on the cellar mezzanine, two flights down from the lobby. Also on exhibit will be an exploration satellite designed and built by the student members of the AIAA with money under a grant from the National Science Foundation.

THE ENGINEER'S PRAYER

The Professor is my Quizmaster,
I shall not flunk
He maketh me to enter the examination room
He leadeth me to an alternate seat
He restoreth my fears
He leadeth me into a deep problem for the grades sake
Yea, though I know not the answers to the questions
The class average comforts me
I prepare my answers before me in the presence of my proctors
He annointeth my head with figures, my time runneth out
Surely grades and finals will follow me all the days of my life
And I will dwell in this class forever.

— Compliments **(HUNT 64)**



James Sarantitis (right), a junior at the College, receives the 1964 Reynolds Aluminum Prize for Architectural Students.

Presenting the award, a $200 check, is Charles E. Brandt, regional manager of Architectural Services for the Reynolds Metals Company. Also present is Professor Frank A. Rappolt, chairman of the College's Department of Architecture and Graphics.

The student prize is awarded for the "best original design of a building component in aluminum." Mr. Sarantitis' entry was a modular aluminum structural system.

INDUSTRY TODAY

A future in which science will have found the means to banish hunger from the earth was foreseen today as one among many developments of tomorrow's world by David Sarnoff, Chairman of the Board of the Radio Corporation of America.

In an address delivered at the "Animated Magazine" of Rollins College he said that advanced agricultural techniques, cultivation of the seas, genetic alteration of plants and animals, and the chemical creation of synthetic foods "offer the promise that in the future no person will ever need to go hungry."

Science and technology have given mankind the means "literally to move the world." He noted that this is the first generation "with a mature understanding of . . . the sources of matter and energy in the universe." And he added: "Not since man mastered the use of fire has he been confronted by changes of such dimension and opportunity of such scope."

Among the developments of the future which General Sarnoff foresaw were the following:

"Radically new forms of earth transport which would be a by-product of techniques developed to travel on the moon's surface. One example would be earth vehicles operating by air cushion, and powered by nuclear energy or fuel cell. These new vehicles would traverse any type of terrain, completely independent of roads."

A variety of tiny electronics devices "to regulate human organs and even to replace some of them entirely."

Unravelling of the genetic code which determines the qualities and characteristics that pass from parent to child. "As we decipher this code, we will learn perhaps to alter or modify the structure of cells — to eliminate bacterial and other diseases, and possibly to produce healthier strains of plant and animal life."

Operation of the world's industries — long before exhaustion of the earth's mineral resources — largely on the raw materials provided by "the waters of the ocean, the surface rocks, and the surrounding air."

As a result of ultimate nuclear energy abundance, the use of coal and oil as raw materials for chemical synthetics. "Lands once devoted to such crops as flax, cotton, rubber will be turned over to the production of food for the world's growing population."

Sun-powered batteries, fuel cells, small atomic reactors and generators to power industrial and home operations, remote installations and areas in underdeveloped countries, without need of major installations or transmission systems. "Atomic energy will dig canals, blast harbors, create underground reservoirs, and provide low cost power to desalinize the ocean's waters for irrigation."

Computers learn by experience in the same manner that humans do. "We may in time see computers communicating with one another, adjusting each other's operations in accordance with pre-determined needs and plans."

Global communications "with anyone, anywhere, at any time, by voice, sight, or written message, separately or in combination. We will see the individual completely equipped with a personal vest pocket transmitter-receiver which will be his link to a satellite switchboard in space. He will have an individual frequency in the same way that we now have an individual telephone number."

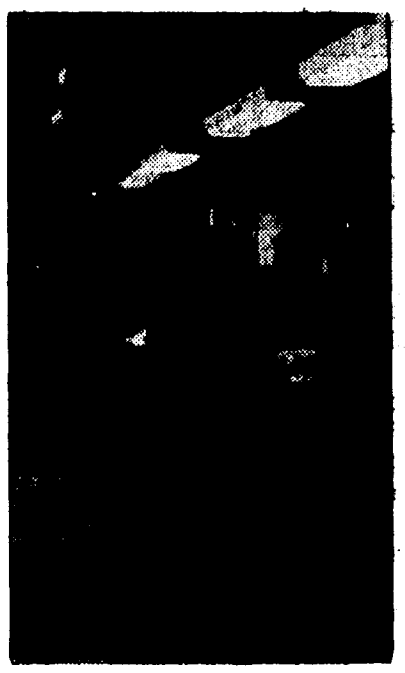
Transmissions of data from distant computer centers for medical, legal, financial and other use. "Overseas correspondence will be transmitted by satellite and reproduced by fassimile. Satellite global television will be transmitted direct to the home, with simultaneous translations for the billion or so people who may be waching it."

The reduction of working time, by means of automation and computers, "to no more than a handful of hours a week."

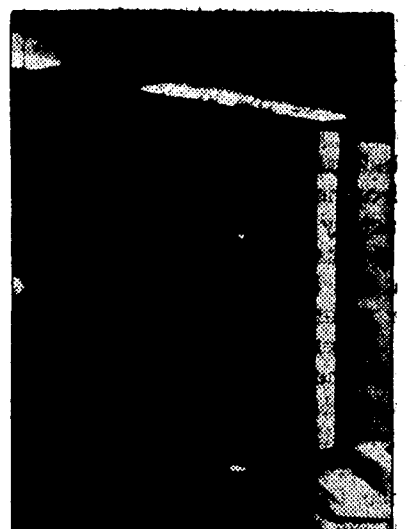
Everybody living or born in the remainder of this century and into the next "will be subject to the gravitational pull of science in every area of human endeavor," General Sarnoff said.

"To be uneducated in science at the end of the 20th century and the dawn of the 21st is the equivalent of illiteracy in one's native language in earlier times. It will not be possible for human beings in a self-governing democracy effectively to function politically, economically or socially without an understanding of the basic principles and effects of science upon society."

General Sarnoff concluded: "We need as never before well-rounded educated people who can see the unity in the pursuits men follow, and who understand the meaning of man's role in the universe. It is an objective that should command the support of all our efforts."



The oscilloscope is used to check the computer systems.



Components of the College's new $800,000 IBM 7040 analog computer. Gene Williams of IBM is at the controls.

SteinmanHallOnly Two Years Old

(Continued from Page S-1)

1955 and continued for the next seven years. The construction work was halted intermittently by a series of strikes. Steelwork was halted due to the nationwide steel strike of several years ago, and when the time came for the concrete to be poured, the concrete workers staged a strike. Further delays resulted from major modifications in the buildi design, which were found nec sary after construction work h begun. For several months wo was halted because of a dispu between the prime contractor a the City of New York.

Finally the building was fi ished and opened for classes September, 1962, even thou several labs were not complet until the following January. T building was dedicated at special ceremony in April, 19

On Campus with Max Shulman

(Author of "Rally Round the Flag, Boys!" and "Barefoot Boy With Cheek".)

ARF!

Benjamin Franklin (or The Louisville Slugger, as he is better known as) said, "A penny saved is a penny earned," and we, the college population of America, have taken to heart this sage advice. We spend prudently; we budget diligently. Yet, despite our wise precautions, we are always running short. Why? Because there is one item of expense that we consistently underestimate—the cost of travelling home for weekends.

Let us take the typical case of Basil Metabolism, a sophomore at UCLA majoring in avocados. Basil, a resident of Bangor, Maine, loved to go home each weekend to play with his faithful dog, Spot. What joy, what wreathed smiles, when Basil and Spot were re-united! Basil would leap into his dogcart, and Spot, a genuine Alaskan husky, would pull Basil all over Bangor, Maine—Basil calling cheery halloos to the townfolk, Spot wagging his curly tail.

The results were not all Basil had hoped

But the cost, alas, of travelling from UCLA to Bangor, Maine, ran to $400 a week, and Basil's father, alas, earned only a meagre salary as a meter-reader for the Bangor water department. So, alas, after six months Basil's father told Basil he could raise no more money; he had already sold everything he owned, including the flashlight he used to read meters.

Basil returned to California to ponder his dilemma. One solution occurred to him—to ship Spot to UCLA and keep him in his room—but Basil had to abandon the notion because of his roommate, G. Fred Sigafoos, who was, alas, allergic to dog hair.

Then another idea came to Basil—a stroke of genius, you might call it. He would buy a Mexican hairless chihuahua! Thus he would have a dog to pull him around, and G. Fred's allergy would be undisturbed.

The results, alas, were not all Basil had hoped. The chihuahua, alas, was unable to pull Basil in the dogcart, no matter how energetically he beat the animal.

Defeated again, Basil sat down with G. Fred, his roommate, to smoke a Marlboro Cigarette and seek a new answer to the problem. Together they smoked and thought and—Eureka!—an answer quickly appeared. (I do not suggest, mark you, that Marlboro Cigarettes are an aid to cerebration. All I say about Marlboros is that they taste good and are made of fine tobaccos and pure white filters and come in soft pack or Flip Top box.)

Well, sir, Basil and G. Fred got a great idea. Actually, the idea was G. Fred's, who happened to be majoring in genetics. Why not, said G. Fred, cross-breed the chihuahua with a Great Dane and thus produce an animal sturdy enough to pull a dogcart?

It was, alas, another plan doomed to failure. The cross-breeding was done, but the result (this is very difficult to explain) was a raccoon.

But there is, I am pleased to report, a happy ending to this heart-rending tale. It seems that Basil's mother (this is also very difficult to explain) is a glamorous blond aged 19 years. One day she was spotted by a talent scout in Bangor, Maine, and was signed to a fabulous movie contract, and the entire family moved to California and bought Bel Air, and today one of the most endearing sights to be seen on the entire Pacific Coast is Spot pulling Basil down Sunset Boulevard—Basil cheering and Spot wagging. Basil's mother is also happy, making glamorous movies all day long, and Basil's father is likewise content, sitting at home and reading the water meter.

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