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Engineering at Pacific during the 20th Century

Robert E. Hamernik
University of the Pacific

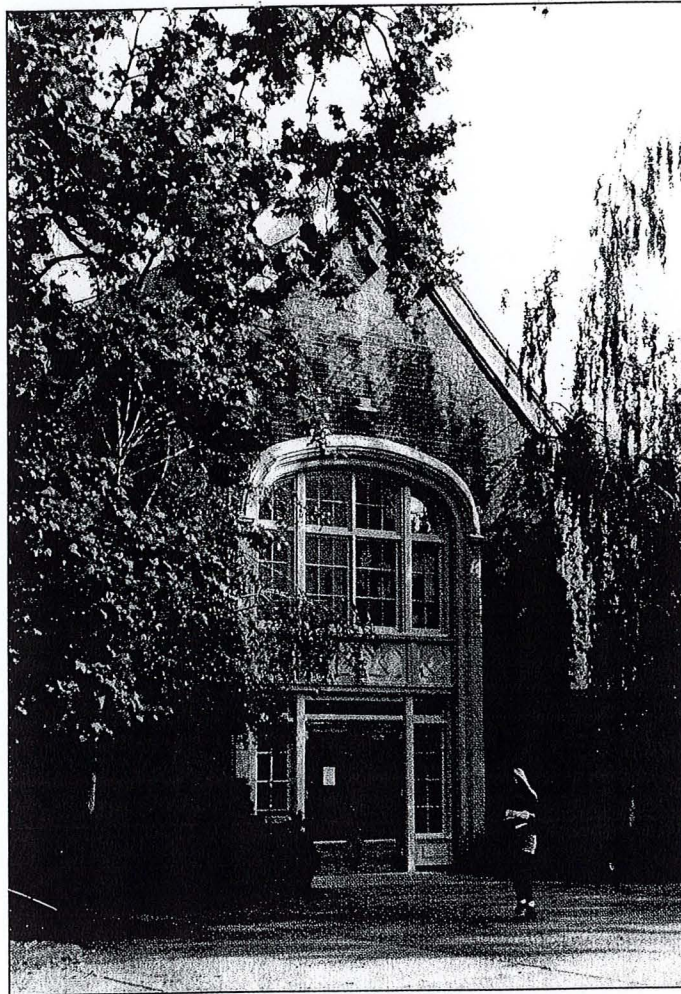
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Engineering at Pacific during the 20th Century



UNIVERSITY OF THE PACIFIC
SCHOOL OF ENGINEERING
STOCKTON, CALIFORNIA

Robert E. Hamernik
(Faculty member 1962 - 1998)

Forward ...

After twelve years of retirement, I have written my memories covering my time on the University of the Pacific campus. Others may disagree with some of my recall after so many years, but in no way have my feelings changed over the years.

I was appointed Assistant Professor of Civil Engineering in September of 1962. My major responsibility was to teach structural analysis and design courses, but prior to my retirement in September of 1998 I served in various administrative positions under three deans and four presidents. I am proud to have contributed to the growth of the School of Engineering which was re-named the School of Engineering and Computer Science in 2002. The School has had excellent leadership throughout the years, and I was fortunate to spend the first twenty eight years of my tenure under Dean Henderson McGee and Dean Robert L. Heyborne. They were completely dedicated to the School of Engineering and set a high standard of excellence. Memories of faculty and staff no longer at UOP, alumni who have remained friends throughout the years, and University achievements, both in and outside the classroom, remain after all these years. Truly the faculty has had a wide range of personalities including a "cast of characters" best left in my memories.

Because I taught for several semesters after my retirement, I have included material through the year 2000. It is my hope that another faculty member, who was on staff at the start of the 21st century, will continue the history with his/her personal experiences.

As the years passed, the University became like home to my family. Both of my children grew up on campus participating in school activities, attending the University as students, and now my grand daughter is a student on campus. Special thanks to my wife, Erol Jean, who supported me when my evenings were spent grading papers, when I was away from home on school business, and during the troubling days in the late sixties which were filled with uncertainties. I was fortunate to have a wife and children who enjoyed being a part of the "Pacific Family."

Robert E. Hamernik
October 25, 2010

University of the Pacific School of Engineering Memories

Chapter 1 ... Founding of the University and the move to Stockton.

Chapter 2 ... Engineering at Pacific 1924 to 1947

Chapter 3 ... Engineering at Pacific 1947 to 1968

Chapter 4 ... Engineering at Pacific 1968 to 1990

Chapter 5 ... In Memory of Dean Robert L. Heyborne

Chapter 6 ... Engineering at Pacific 1990 to 2000

Chapter 1

Founding of the University and the Move to Stockton

The University of the Pacific is California's first chartered institution of higher education. At an educational conference of Methodist leaders in San Jose on January 6th and 7th in 1851, they recommended the "founding of an institution of the grade of a university." (1.1) Prominent among those taking an active part in this recommendation were William Taylor, Issac Owen, and Edward Bannister, all ministers, along with Annis Merrill, a San Francisco lawyer.

The University was chartered by the Supreme Court of the State of California on July 10, 1851 as California Wesleyan College, later changed to the University of the Pacific, and opened in May 1852 in Santa Clara. The school's first degrees were granted in 1858, and the Conservatory of Music was organized in 1878. In 1911 the name was changed to the College of the Pacific, but then changed back in 1961. The College of the Pacific title was retained as the designation for the University's Liberal Arts College, now simply called "The College."

Founded as a coeducational institution, the University operated separate departments to 1871 when it moved to a new campus at College Park, San Jose. Moving from San Jose to Stockton in 1924, Pacific became the first private university in Central California under the presidency of Dr. Tully Cleon Knoles (1919 to 1946). The School of Education was established in 1924 and other professional schools, three cluster colleges, and graduate programs started in later years.

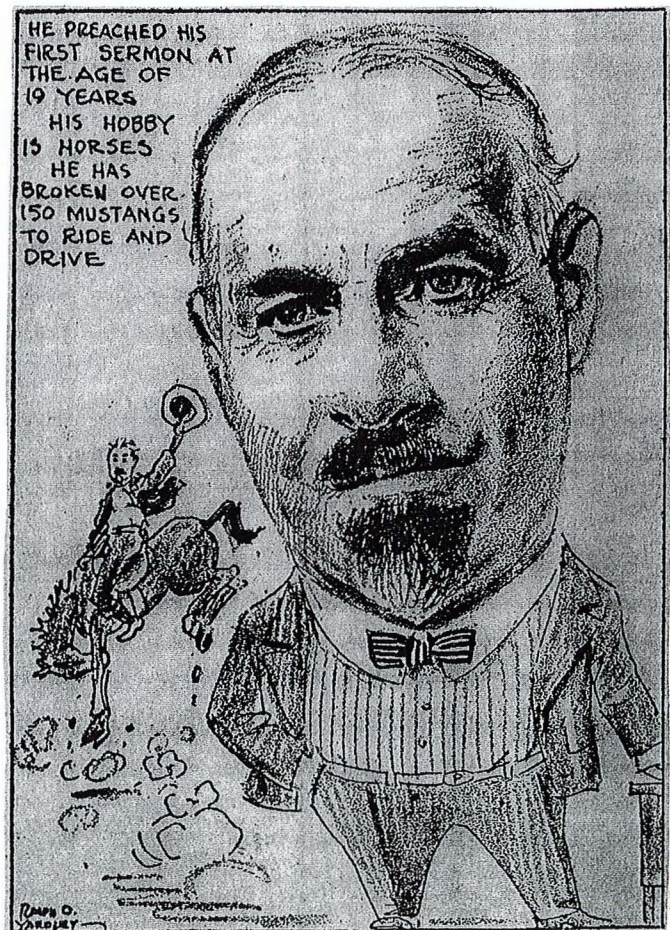
From 1935 to 1951 the College offered upper division and graduate course work while Stockton College, (now San Joaquin Delta College) a public junior college, offered the first two year courses.

The University of the Pacific has been described as an independent, coeducational university serving students on three campuses in Northern California. The University experienced significant growth under the administration of Dr. Robert Burns (1947-1971). In 1955 the University opened the School of Pharmacy and in 1956 its Graduate School. In 1962 the College of Physicians and Surgeons, a School of Dentistry founded in San Francisco in 1896, merged with the University. In the fall of 1962 the University founded the first of three "cluster colleges" which adapted the Oxford and Cambridge model integrating faculty and students into learning communities. The first cluster college, Raymond College, named after Mr. Walter Raymond, had no letter grades and a program

designed so that the student would graduate in three years. The second cluster college, Elbert Covell College, opened in the fall of 1963 was unique because all classes were taught in Spanish. The third cluster college, Callison College, named after Dr. Fred Callison opened in 1967, was dedicated to the study of international relations. When the college first opened, the students spent one year in India. After several years students went to Japan. Each of these cluster colleges was named after its benefactor whose gift made the establishment of the college possible. Raymond and Callison Colleges were closed in 1979 and Covell in 1982.

McGeorge College of Law, an independent Law School founded 1924 in Sacramento joined the University in 1966. The School of Business was founded in 1977 and University College, designed for reentry adults wishing to complete an under graduate degree was established in 1984. The newest program on campus, and first university based undergraduate program in California to emphasize international studies, is the School of International Studies. It began offering course in 1986.

Since the move to Stockton, six presidents have led the University. Dr. Tully C. Knoles served until 1946. "As President of the College of the Pacific, He Has Had the Unique Experience of Moving His Institution From One City to Another" (1.2) and it was noted that he preached his first sermon at age 19 and broke over 150 mustangs to ride. Dr. Knoles was succeeded by Dr. Robert E. Burns in 1947 and led the College for over 24 years. Dr. Al McCrone served as Interim President for eight months until Dr. Stanley McCaffrey was appointed in the fall of 1971. (1.3) After Dr. McCaffrey's retirement, Dr. Bill Atchley was next in line and appointed in 1987, followed by Dr. Donald DeRosa in 1995, and then Dr. Pamela Eibeck in 2009.



- 1.1 Academic Council Study, The History of the University of the Pacific, date unknown p. 1.
- 1.2 Stockton Daily Evening Record, Stockton, San Joaquin County, California, Elsie Flower, Biographer, Saturday, September 27, 1924.
- 1.3 A Letter of Appreciation to the Pacific Family, by Ted F. Baun, President, Board of Regents, October 8, 1971.

Chapter 2

Engineering at Pacific 1924 to 1947

It is a great profession. There is the satisfaction of watching a figment of the imagination emerge through the aid of science to a plan on paper. Then it moves to realization in stone or metal or energy. Then it brings jobs and homes to men. Then it elevates the standards of living and adds to the comforts of life. That is the engineer's high privilege. (2.1)

Hebert Hoover (1874-1964)
US Mining Engineer & Politician

Engineering instruction began in 1924 as one area of concentration within the College of the Pacific. The initial offering was a Bachelor of Arts degree with an engineering emphasis primarily in civil engineering in keeping with the predominate engineering practice of that era. Eighty degrees were awarded until the program was suspended prior to the second world war. Throughout the years several truly outstanding graduates including Ted F. Baun AB Class of 1927, Founder and President of Baun Construction Company, Carlos C. Wood AB Class of 1933, vice president of Sikorsky Aircraft, L. Eugene Root AB Class of 1932, who became President of Lockheed Missiles and Space Center, and Walter Fellers AB Class of 1940, who was the chief of design for the Northrop Corporation. They all remained close friends of the University, and Mr. Wood writes about his days at the College in his autobiography. (2.3) Note they received the Bachelor of Arts (AB) degree. These were, however, difficult years for engineering as described Bulletin of the College of the Pacific dated September 1924. (2.3)

For some time Pacific has desired to arrange for full courses in Engineering. There has been two real problems. The first was the securing of a man adequately trained for his work and fully in sympathy with Pacific's ideals. This man we have found in Professor C.L. White, who comes to us from the University of Washington, where he has been Professor of Engineering. The second great problem was securing of adequate practical training for the students.

Until recent years Colleges and Universities were under the necessity of maintaining shop equipment which had to be changed frequently to meet new conditions. This was very expensive, and

for the smaller schools prohibited. Of late years many institutions are joining forces with industrial plants, and by a fine spirit of cooperation the industries provided the practical training and the institutions furnish the academic training. This leads to the sympathetic solution of the common problems, and gives a training that permits the young graduate in Engineering to go directly into their fields of labor, knowing intimately the problems that are only theoretically taught under the old methods.

Pacific has been in correspondence with Professor White for many months. He has visited Stockton and has been convinced that the industrial facilities for this new kind of work are present. He received his Bachelor of Arts degree and Civil Engineering degree from the University of Iowa, and is a member of Sigma Xi and the Society of Civil Engineers.

Professor White comes to Pacific with real enthusiasm to build up a great department of Engineering.

Eighty four Bachelor of Arts degrees were granted through 1943. Because of World War II, world conditions changed across the nation and also on the campus life at the College. Engineering in that era was dominated by male students and with the "call to service" of college age men, the emphasis on producing equipment and supplies needed for the war, and the Navy V-12 training program, the College suspended the engineering program. "The college was honored for its commendable work in this program when, in the fall of 1947 the Navy presented it with the coveted plaque of distinguished service." (2.4) It was also in 1947 when President Burns sought to reopen engineering.

In his first presidential report to the Board, Robert Burns called for the re-establishment of the department to meet the needs of the returning veterans. The Board approved his recommendation and by October of that year the President could report that "the Department of Civil Engineering is getting underway." Professor Felix A. Wallace of the Carnegie Institute of Technology had been hired to direct the new program, and seventeen majors had already enrolled. (2.5)

The department formally began offering courses in the fall of 1948, but "In order to receive full accreditation in engineering there is a need for a complete

hydraulics laboratory. Additional materials for practical use are also demanded.”
(2.6) President Burns expressed confidence that when these requirements are met, full accreditation will be forthcoming.

Although graduating classes were small in number, the students retained their devotion to the College. Walter Boalt, Class of 1942 AB, stopped by campus one day and after talking to Dr. Gary Martin, Assistant Dean, an unexpected reunion with four of his classmates was planned. Reunited were Grant Colliver Class of 41 AB, Louis (Graf) Kroeck Class of 41 AB, Dan Pengilli Class of 41 AB and Charles Tarbox. “They initially did not recognize each other (after 62 years), but upon saying the other’s name there were nearly tears as the memories visibly, even palpably flood in.” They spoke of many things and noted that, “All freshman had to wear dinkey (a small cap with a small visor) and corduroys. Anytime you were outside, you had to have your dinkey on. Then, at homecoming, we had a bon fire and we were all allowed to throw our dinkeys in the fire. Beginning your sophomore year, you were allowed to wear jeans. And the dirtier they were, the better.” Warren Boalt whose father was Chair of the Biology Department noted, “The cost was \$9.00/unit. But my father was a professor here, so I didn’t have to pay any tuition. Lab fees were \$5.00” Charles Tarbox said, “I still have my slide rule.” (2.7)

- 2.1 The Profession of Engineering, Hebert Hoover, from his memoirs
- 2.2 As I Remember It, by Carlos Wood, February 1997, p.23-40
- 2.3 September 1924 Bulletin of the College of the Pacific, Conservatory Alumni Edition September 1924.
- 2.4 Catalog, College of the Pacific, 1948-49 p.71.
- 2.5 Pioneer or Perish A History of the University of the Pacific During the Administration of Dr. Robert E. Burns 1946-1971 by Kara Pratt Brewer p.71
- 2.6 History of the College of the Pacific 1851-1951 by Rockwell D. Hunt Published by The College of the Pacific, Stockton, California 1951 p.172
- 2.7 School of Engineering & Computer Science, Winter 2005, Class of 1941 Visit’s the Campus, Article by Gary R. Martin, Winter 2005, p.4-5

Chapter 3

Engineering at Pacific 1947 to 1968

On September 15, 1947, the engineering program was reestablished with a formal major of civil engineering in the Department of Engineering. The program was under the direction of Dr. Felix Wallace.

Dr. Wallace earned his bachelor and masters degrees at the Polytechnic Institute of Brooklyn. He began as an instructor at the Carnegie Institute of Technology, Pittsburg where he earned his doctoral degree in civil engineering in 1952. His professional experience included 14 years of design in transit and structural work with the New York City and Brooklyn transit corporations. In 1942 he was commissioned in the U.S. Navy and was the officer-in-charge, and public works and engineering officer, at naval bases in Panama, Almirante, Panama, and the Taboga, Canal Zone naval bases. During his final assignment at the Stockton Naval Supply Annex he made contact with the College. Throughout his tenure at Pacific, Dr. Wallace was not only responsible for his duties as chair and teaching classes, he also was the design engineer for the Memorial Stadium which was built in 1950 and he was retained as a consultant on other public and private projects. Dr. Wallace was a member of the American Society of Civil Engineers (ASCE), American Society of Engineering Education (ASEE), the National Society of Professional Engineers (NSPE), and the engineering honor society Tau Beta Pi. Dr. Wallace was at the College for ten years when he was named Professor of Civil Engineering and Administrative Assistant to the Dean at Cooper Union School of Engineering, New York City. (3.1) He saw the first three Bachelor of Science degrees awards in 1949 to Stephen H. Goodman, Glenn B. Armstrong and Gunter K. Leptien.



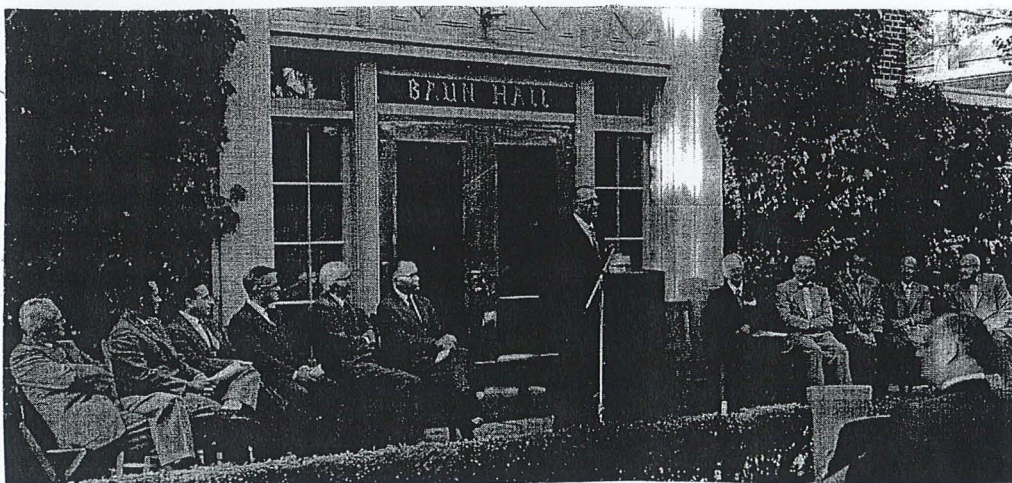
LEAVING - College of the Pacific is losing its chairman of the engineering department Felix Wallace, who has been here the last 10 years, is going to Cooper's Union, noted engineering school in New York.

At that time, the program was a joint venture with Stockton College, now San Joaquin Delta Community College, where the students completed the lower division requirements at Stockton College and then completed the junior and

senior years at the College of the Pacific. The four-year program began at Pacific in the Fall Term of 1951. From 1947 through the 1954 academic year, a total of thirty one civil engineering degrees were awarded. As late as 1960 the two schools shared facilities. Robert R. Winterberg wrote in a letter to Dr. Edward A. Raleigh at Stockton College, "this letter is to confirm the arrangements made for the rental of the Materials Test Laboratory at the College of the Pacific during the fall semester 1960-61." (3.2)

President Robert Burns used the morning hour for exercise and student relations. At 7:30 each morning he, "jumps on an English racing bicycle for a constitutional about the Stockton campus. Waiting for him was a coterie of freshly scrubbed co-eds." Throughout his presidency, Dr. Burns had ambitious plans to create 15 cluster colleges in 15 years, but as one university official said, "I think it is too ambitious ... but it's a helluva dream of Burns." (3.3)

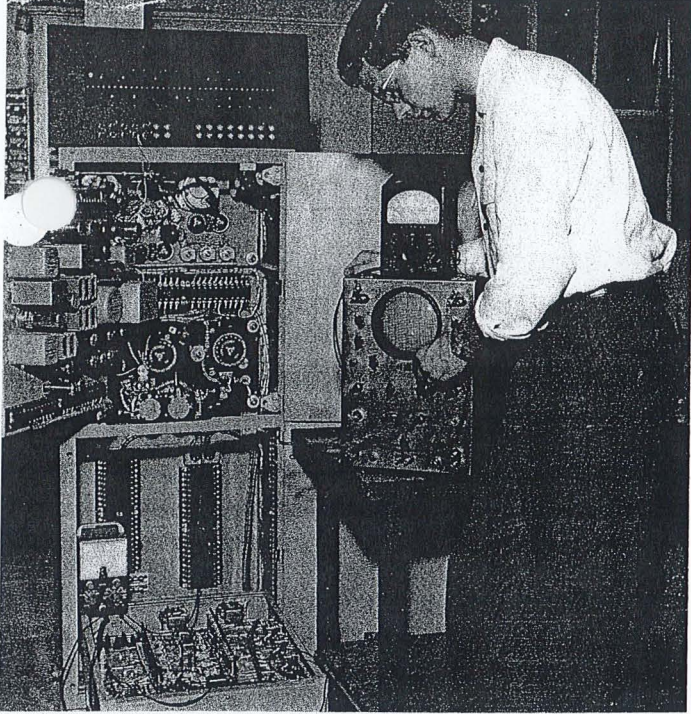
It was during President Burn's tenure that the School of Engineering was established in 1957 (the banner used at graduation and for other ceremonies incorrectly has the school starting in 1958). The School was to be housed in Baun Hall named in honor of the support Mr. Ted Baun gave to the University throughout the years. "This (Baun Hall) was built in 1924 as one of the original buildings on the Stockton campus, and .. in some respects .. spent its first 30 years as the "heart" of the campus .. first as the central source for heat and then the central source for books as the main library." (3.4) The tunnels stretched from Baun Hall past the current finance center, originally the infirmary, and continued west to the gymnasium. To the east the tunnels serviced the Conservatory and



Ted Baun at rostrum dedicating the new Engineering Building in 1957
Verne Harrison seated far left, Henderson McGee seated fourth chair from right

the president's house. In "1938 the Board called for bids" to convert the building into a library because the flumes in Weber Hall from the chemistry department "proved to be less than conducive to serious study." It is interesting to note that the faculty agreed to the establishment of engineering as a separate school only after, "being assured that the move would not engender any new costs." (3-4) The dedication program lists the contributions from individuals, companies and professional organizations. Introductory remarks were made by Lloyd W. Bertholf, Academic Vice-President, with speeches by Henderson McGee, L. Eugene Root and Stephen Goodman, one of the three first graduates to receive the Bachelor of Science degree from the College in 1949. (3.5) Throughout its history Baun Hall saw both major and minor renovations utilizing every possible space for faculty and staff offices and also included capturing a portion of the attic for the Dean's office in the seventies.

Dr. Adelbert Diefendorf was appointed Dean of the School of Engineering (1957-62), and the school began offering degrees in civil, electrical, and management engineering. Modest success was achieved; however, the school's struggles continued during the next few years. A critical weakness was a shortage of local students who could not afford the high cost of tuition. Between 1947 and the fall of 1955 only thirty one degrees in civil engineering were granted. In 1955 the program was denied accreditation by the Engineers Council for Professional Development (ECPD) which was the national accrediting body for all engineering programs. Dr. Diefendorf clearly struggled with little administrative support as evidenced in a letter to him from Dr. Samuel L. Meyers, the Academic Vice-President, who wrote in a letter to Dr. Diefendorf, "it appears that we have no choice but to grant you authorization to add to your staff a person to share with Mr. Colip the responsibility for work in Electrical Engineering." He further wrote, "... the rank for the position should be that of an instructor or assistant professor and that the salary should not exceed \$6,000 for the academic year." (3.6) Further lack of support is evident in the memo to Dr. Diefendorf from John F. Schmieskors, Purchasing Agent, stating, "This is to advise the Engineering School Budget for supplies and equipment has been overdrawn for the current fiscal year by \$26.00. Further procurement cannot be made unless special action is requested of the Business Manager." (3.7) The 1961-62 budget for the School of Engineering was \$36,125.00 of which \$34,400 was for "employees" leaving only \$1,725.00 for supplies, equipment, library acquisitions, and miscellaneous. In addition to financial constraints, the Dean was scheduled to teach 12 academic units leaving him no time for other activities. (3.8)



Career Education in

ELECTRICAL ENGINEERING

College of the Pacific
School of Engineering

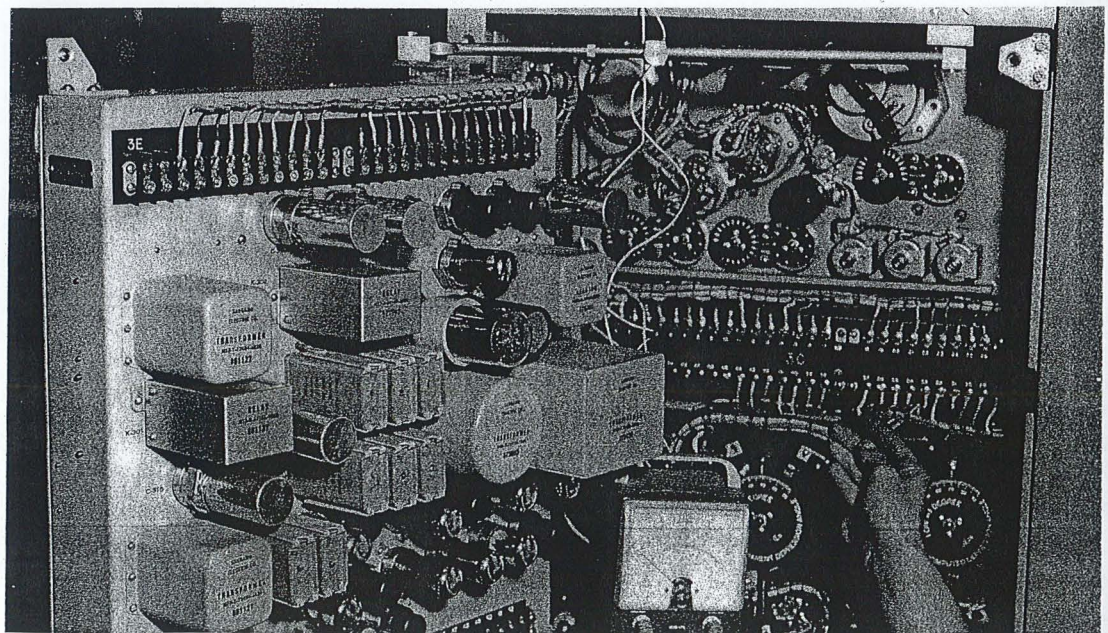
Stockton 4, California

ELECTRICAL ENGINEERING is one of the most challenging and rewarding professions available today. The College of the Pacific Electrical Engineering curriculum provides professional career training in this exciting, expanding field where demands for properly trained men will steadily increase as the electronic age advances.

Pacific has successfully trained engineers since 1924, as a small department in a liberal arts college. In 1957, after more than 30 years of experience, these studies were expanded and extended to full professional status and the School of Engineering was established --- one of four professional schools of the College.

At the same time, a complete building was entirely remodeled and newly equipped as the home of the School of Engineering. This is Baun Hall, named for an engineering graduate of Pacific who is a noted California highway engineer and builder. Baun Hall provides modern lecture halls and drafting rooms, offices and laboratories.

Students may major in various divisions of Civil Engineering, Engineering Sciences, Engineering Administration, and in Electrical Engineering, fastest growing department in the Pacific School of Engineering. A newly remodeled electronics and circuits laboratory is being equipped to further stimulate students' scientific curiosity.



As noted, the School of Engineering added a new major in fall of 1959, Electrical Engineering. The School received electronic equipment valued at \$ 75,000 from the U.S. Navy installation, and in 1962 the University granted the first four degrees in Electrical Engineering. (3.9) The graduates were Nurhan Aghazarian, Grant L. Bennett, David Dutra and Ronald T. Kipp.

Curriculum Leading to the Degree Bachelor of Science in Electrical Engineering

Freshman Year

FIRST SEMESTER	UNITS	SECOND SEMESTER	UNITS
General Chemistry	4	Inorganic Chemistry	4
Engineering Orientation	1	Descriptive Geometry	2
Engineering Drawing	2	Calculus and Analytic Geometry	4
English Composition	3	Principles of Physics	4
Plane Trigonometry	3	Fundamentals of Speech	3
College Algebra	3	Physical Education	$\frac{1}{2}$
Physical Education	$\frac{1}{2}$		
	<u>16 $\frac{1}{2}$</u>		<u>17 $\frac{1}{2}$</u>

Sophomore Year

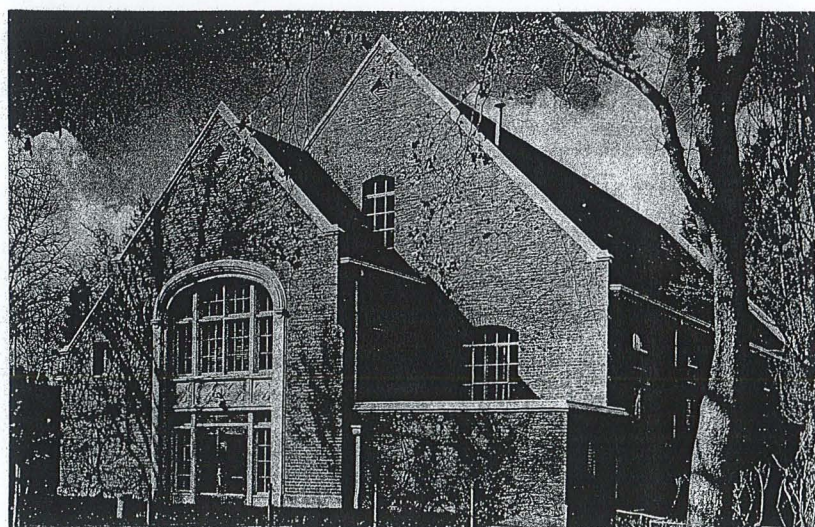
Engineering, Statics	3	Engineering, Dynamics	3
Non Technical Elective Courses	3	Introduction to Circuit Theory	3
Calculus	4	Calculus	4
Principles of Physics	4	American Democracy	3
General Psychology	3	Principles of Physics	4
Physical Education	$\frac{1}{2}$	Physical Education	$\frac{1}{2}$
	<u>17 $\frac{1}{2}$</u>		<u>17 $\frac{1}{2}$</u>

Junior Year

Strength of Materials	3	Bible, Old Testament	2
Modern Network Theory I	4	Modern Network Theory II	4
Introduction to Electronics I	4	Introduction to Electronics II	4
Energy Storage and Conversion	3	Rotating Machinery	4
Differential Equations	3	Advanced Calculus	3
	<u>17</u>		<u>17</u>

Senior Year

Bible, New Testament	2	Non Technical Elective	3
Thermodynamics	3	Fluid Mechanics	3
Technical Elective Courses	3	Technical Elective Courses	4
Advanced Circuit Theory	3	Electrical Measurements	2
Business English	2	Automatic Controls	4
Electromagnetism	4		
	<u>17</u>		<u>16</u>

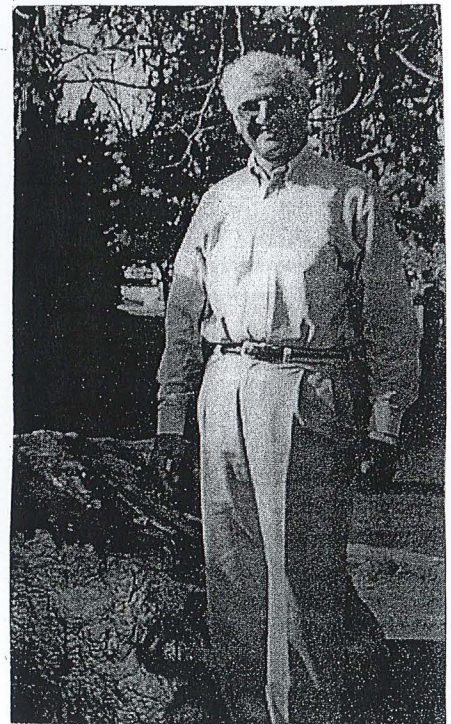


In 1961 Professor Colip introduced the students and faculty to a tradition which is celebrated at many engineering schools, the observance on March 17th of St Patrick's Day. He is considered to be the "Patron Saint of Engineers" and the students adopted this idea and observed the day with a picnic and games. To add vitality and unity to the engineering student body, and to make the campus aware of the presence of the School of Engineering, the students decided a rock would be a good focal point. Tom Duecker, Class of 1961, with the help of three other students, contacted a local contractor who had a dump truck and Tom and a driver headed to the Calaveras Cement Company, Quarry No. 1 in San Andreas. He chose a rock, a Green Schist Limestone estimated to weight 7.5 tons, and headed back to Stockton. Unknowingly, the pale green texture of the rock may have been the start of UOP engineers "Going Green." As the rock was dumped off the truck it came to rest directly in line with the front doors of Baun Hall. Each year the freshman class was inducted as a "Guard of St. Patrick" by kissing the rock at a designated location which was very close to the ground. Mr. Fawzi M. Al Saleh Class of 1962, who was chosen Distinguished Engineering Alumnus in 1999, was the unanimous choice to be the first student inducted. For the kissing ceremony Fawzi dressed in Arabian attire but wore a "green" cord around the headpiece rather than the normal black cord. Later that day Fawzi



Fawzi standing at far right

At right Mr. Al Saleh in 1999



caught Professor Harrison and insisted that he also kiss the rock. He was indeed successful but story has it that Professor Harrison got revenge when returning a graded test. (3.10) The School of Pharmacy was located in the chemistry building

before its physical plant was constructed north of the Calaveras River, and the pharmacy and engineering student bodies became friendly rivals. One night the pharmacy students painted the rock as a joke but it has become a tradition. It is thought the first painting occurred on March 17, 1961. Throughout the years the rock has been painted countless times, often representing a timely campus event, a local celebration or national theme. Larry Hill, Director of the Cooperative Education Program noted, "The rock probably gets painted 20 to 30 times a year, and I have yet to see anyone painting it. The painting is always done in the middle of the night." (3.11) The painting tradition continues but unfortunately the tradition of kissing the rock has been lost. During the construction of Khoury Hall in 1982, the rock mysteriously disappeared for three years but with the "urging" of the 1985 graduating class the rock re-appeared and was placed in its current location closer to Khoury Hall. The location was chosen in hopes of controlling the paint which was spread over sidewalks and one time into the foyer of Baun Hall. (3.12) In passing interest, the rock in front of Anderson Hall was moved from Napa College when that College merged with the College of the Pacific. (3.11) It is known as the "kissing rock" and it is thought that this rock was brought to campus in the mid 1920's.

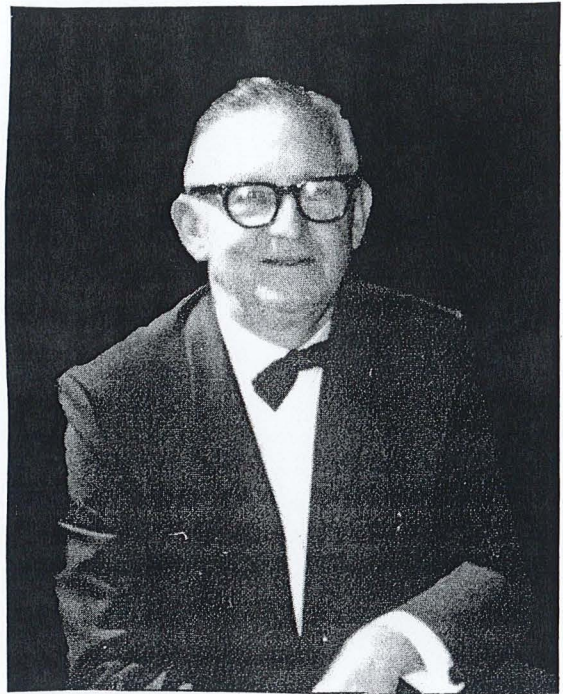
In addition to bringing the rock to campus, the students from both the American Society of Civil Engineers (ASCE) and The Institute of Electrical and Electronic Engineers (IEEE) participated in both social and academic programs. The ASCE "club" program was dissolved and on March 9, 1965 it became a full fledged chapter of the national ASCE Student Chapter.

"In September of 1961, the Civil Engineering curriculum was presented to ECPD for accreditation." (3.13) For the second time accreditation was denied. The report cited the need for additional faculty, better laboratory facilities, insufficient funding, and curriculum revisions. The unwillingness of the administration to support additional faculty or to increase the school budget sufficiently, since the previous accreditation visit in 1955, undoubtedly were factors in ECPD's decision.

In the Fall of 1962, Henderson McGee, a 1927 graduate from the College of the Pacific, was appointed to the dean's position. He had a long professional career with the United States Army Corps of Engineers in their Sacramento office and was active in the American Society of Civil Engineers serving at the local level and as Director for the west coast, Zone IV. That same year the school hired Robert E. Hamernik as an Assistant Professor in civil engineering. The engineering faculty now consisted of five full time faculty with three faculty members in the civil engineering and two faculty members in the electrical

engineering department. In the early 1960's the School only had a part time secretary and one telephone which was located in the dean's office and used by the faculty when needed. In the fall of 1962, a full time secretary was hired for Dean McGee.

In July of 1963 Dean McGee presented to the Academic Vice President, Samuel L. Meyers, an in depth report entitled, "The Development Plan for The School of Engineering." Starting with a brief history from 1924 to 1942, he then covered recent enrollment trends, the curricula, and the importance of being ECPD accredited. Accreditation was designed, "to formulate criteria for colleges of engineering which will insure to their graduates a sound educational background for practicing (in) the engineering profession." He wrote, "... the University has not yet been able to measure up to ECPD minimal standards. If engineering education is to survive, an accredit able program must be generated within the next two years." His insight and concern was that in the pragmatic field of engineering, students would not be attracted to a program without accreditation nor would it be possible to attract and retain competent new faculty. Dean McGee further wrote, "It is a demonstrable fact rather than an assumption that prospective students simply will not be attracted to a school where the engineering programs lack accreditation." To overcome ECPD concerns, Dean McGee outlined the need for \$500,000 to be designated from the President's Long-Range Development Program for the University. His report also addressed the importance of additional faculty, the need to upgrade the curriculum, and to recognize the importance of the upcoming impact on education due to the "high-speed electronic digital computing methods..." and the changing student body which will become more "international and multi-racial." (3.13)



Henderson McGee 1965

Undoubtedly, the administration was staggered by his report. They were not prepared to solve the financial needs in the short term. Consequently engineering continued on a limited budget but managed to maintain an enrollment of fifty-to-sixty students through the sixties. In 1967, at Dean McGee's urging, the administration was asked to place the matter before the Board of Regents. The

question was simple. Either the Board needed to commit to providing adequate funding to correct the deficiencies cited by the accrediting team or to terminate all engineering programs at the College. Accreditation was that important. Dean McGee prepared, "A Proposal of Policy Concerning Accreditation of Engineering Curriculums" in March 1968 in which he wrote, "Accordingly, and at this juncture, it becomes both necessary and desirable for certain academic and administrative elements of this University, viz., those whose involvement is essential in fostering and maintaining the visibility and excellence of the engineering program, to be brought into a formal and cooperative relationship with the School of Engineering for the purposes at hand." In addition to the President and three Vice Presidents, Dean McGee stressed the need for support from several departments in the College of the Pacific, the University Library, the Office of the Registrar, the Dean of Admissions, and the Office of the Controller. This document was approved by the Executive Policy Committee on March 11, 1968.

With the persuasive leadership of Regent Ted Baun, the Board agreed to provide financial support to strengthen the engineering offerings. The Board of Regents also gave the faculty permission to search for a new dean because Dean McGee, after achieving his goal to get administrative support for the engineering programs to seek accreditation, elected to retire in the fall of 1968. (3.14)

The School of Engineering followed the Schools of Pharmacy, Education and the Conservatory of Music in the creation of an Engineering Alumni Council (EAC). As stated in its by-laws, the purpose "of this Council shall be to advance the interests of the University of Pacific School of Engineering and to promote the welfare of its alumni." (3.15) M. H. "Pete" Wallace, civil engineering graduate in 1959, became the first EAC Chairman at the School's Reunion on September 17, 1966. Interesting to note that the prime rib dinner was to cost \$4.00. (3.15) In the following years, the annual EAC meeting was typically held on the morning of the UOP Homecoming where the Dean gave a report of the school's activities.

In 1966 The Engineering Council of Sacramento Valley (ECSV) representing 17 technical and professional societies began an awards program to honor three engineering students from each of the four schools in the central valley. UOP, U.C. Davis, Sacramento State, and Chico State were the chosen schools. The ECSV awards were to be given at their annual Engineers Week dinner which was celebrated during the week of President George Washington's birthday. Students were nominated by the school's faculty and each student was required to submit a written essay on a given topic followed by an interview session with a panel of

professional engineers. Professor Hamernik sat on the panel most years during this period of time and after the interview sessions were completed, someone consistently singled out a UOP student for his/her outstanding record. Although the student body was small in numbers, the quality of the students was clearly noted. Unfortunately this program was discontinued in 1994. Other awards given to students in the sixties were the Hamilton Watch Award, Northern California District of the American Society of Testing Materials (ASTM), Who's Who Among College Students in America, The Koehring Foundation and the Western Electronic Manufacturing Association.

With a firm commitment from the Board of Regents to continue the School of Engineering, the faculty called upon Professor Jack McKee at the California Institute of Technology and J. Dudley Dawson, former Vice President of Antioch College and consultant to the National Commission for Cooperative Education, to help outline a new program to help attract financially disadvantaged students. It was thought that with the help of some financial aid programs, living at their home, and participating in the cooperative education program, where the student earned a salary, many deserving students could attend UOP. During the 1968 academic year, the engineering faculty undertook studies to determine how Pacific could best establish an academic program unique to the west coast. The faculty supported Mr. Dawson's recommendation that a five-year cooperative education academic program be adopted where the students spend their upper division years alternating semesters between studies on campus and a professional setting where they gained practical experience working under an engineer. This arrangement would also prove to be advantageous to the employer who had the opportunity to oversee prospective employees without a long term commitment. Several schools east of the Mississippi River, both the University of Cincinnati and Northeastern had cooperative education programs, but UOP would be the only school west of the Mississippi River to have a formal cooperative education requirement.

The University is proud of its long list of firsts starting with its charter in 1851, then the opening of the Conservatory of Music in 1878, it was first private university in the central valley, and during the fifties and sixties it added professional schools and three cluster colleges. The School of Engineering has its own list of "firsts." Mr. Fred H. Cole was awarded the Honorary Doctor of Engineering Degree at the Founder's Day ceremony on March 7, 1965. "This was thought to be the first person to whom this degree has been awarded in the University's 114 year history." (3.16) A second Honorary Doctor of Engineering Degree was conferred on Mr. Stephen D. Bechtel, Chairman of the Board of the

Bechtel Corporation on March 6, 1966.

A student also made engineering's list. In spring of 1968, Virginia Charyl Woodward was the first female engineering graduate. The Stockton Record headline read, "Pacific Coed in a Man's World - Civil Engineering" Charyl was quoted as saying, "my mother doesn't understand. I think she wanted me to be a kindergarten teacher." (3.18) Working for a sanitary engineering firm in Boston Charyl noted, "My employer was very conservative regarding women engineers and I didn't get any field work for the first two-and-a-half years." (3.18) The faculty cited her meritorious scholarship, character, and leadership with the presentation of a specially inscribed plaque at the Annual Awards Convocation on May 9. It was not until 1973 when the second female, Teresa Galvez an electrical engineering student, graduated from UOP. Teresa, "had a vested interest in the success of a space shuttle project. (Teresa) Galvez had been a part of the team that designed the guidance system and had helped develop the mathematical model for the Columbia simulators." (3.19) Three years later Rae Ann Eckstrom graduated in 1976 and a fourth female, Pauline Finnegan, graduated in 1977. Thereafter each graduating class had multiple female graduates with the largest class being 1987 with twenty seven female engineering graduates. Another first occurred in 1980 when two female engineering students, Tracy Hirabara and Joyce Lem, were co-valedictorians at the graduation ceremony. The April 1982 issue of Pacific Review had extensive coverage on the growth of the female population in the engineering student body and the work done in the industrial setting.

Dean McGee elected to retire as Dean effective September 1, 1968 and the chair of the Civil Engineering Department Verne Harrison was appointed Acting Dean. This, however, was not the end of Dean McGee's association with the University. "The University offered, and I accepted, appointment as an Adjunct Professor of Engineering. One program of real significance to all of us, and one which will engage the best efforts of those most directly concerned during the ensuing year, is that related to ECPD accreditation of the civil engineering curriculum. The question of similarly presenting the electrical engineering curriculum at the same time is under consideration." (3.20) Dean McGee also planned to be involved with the alumni affairs of the School of Engineering and the University.

His professional career included 35 years with the U.S. Corps of Engineers where he was instrumental in the planning and implementation of the Sacramento Flood Control Projects. He also served as a staff assistant in charge of underground explosion tests. This material was used to develop criteria for a

structure to withstand a bomb blast. Dean McGee was very active in the American Society of Civil Engineers (ASCE) since the beginning of his career in 1927. He served in various roles for the Sacramento Section, was elected and/or volunteered to be on national professional committees, was District Director for the west coast Zone IV in 1962-64, and was chairman of the Executive Committee of the Pipeline Division and edited ASCE publication Pipeline Design for Water and Wastewater. In 1980-81 Dean McGee was nominated for the grade of Honorary Membership in ASCE.

His successor, Dean Robert L. Heyborne said, "Dean McGee worked tirelessly to get the administration to put sufficient money into the Engineering Program such that it would be creditable to call for accreditation inspection. The funds were never committed and in 1967 Dean McGee suggested to President Burns that the question of building or dropping the engineering program be put to the Board of Regents. The Board voted to keep the program." (3.21)

- 3.1 Undated newspaper articles.
- 3.2 Letter from Robert R. Winterberg, Business Manager for COP, to Dr. Edward A. Raleigh, Stockton College, dated October 12, 1960.
- 3.3 San Francisco Examiner, Pictorial Living, The Week of September 16, 1962.
- 3.4 Pacific Review February 1982 pages 6-7
- 3.5 Dedication of Baun Hall Program, Saturday, October 19, 1957.
- 3.6 Letter from Samuel L. Meyer, Academic Vice President, to Dean Adelbert Diefendorf, dated February 3, 1960.
- 3.7 Memo from John F. Schmieskors, Purchasing Agent, to Dr. Diefendorf dated February 13, 1961.
- 3.8 College of The Pacific, Budget Request for Year 1961-61.
- 3.9 Letters from Dean Diefendorf to Business Manager Robert Winterberg dated September 21, 1959 and November 10, 1959.
- 3.10 The Story of the Engineering Rock, Robert L. Heyborne.
- 3.11 University's Tradition is Again as Solid as a You-Know-What, Believed to be The Pacifican dated Monday, July 1, 1985.
- 3.12 Campus Landmarks & Traditions, The Pacific Fund, Now and Tomorrow, page 8. (No date given on reference.)
- 3.13 Notes for Dr. S. L. Meyer Re: Development Plan for the School of Engineering, by Henderson E. McGee, July 1963.
- 3.14 A Proposal of Policy Concerning Accreditation of Engineering Curriculums" by Henderson E. McGee, dated March 11, 1968.
- 3.15 By-Laws School of Engineering Alumni Council, page 1.
- 3.16 School of Engineering Newsletter, June 1965, page 4.

- 3.17 School of Engineering Newsletter, June 1966, page 4.
- 3.18 Pacific Coed in a Man's World-Civil Engineering, Stockton Record, Friday, May 24, 1968.
- 3.19 Pacific Review, Women Engineers: Breaking New Ground, Volume 69, Number 7, April 1982, p.1.
- 3.20 School of Engineering Annual Newsletter, August 9, 1968, page 2.
- 3.21 Memo to Robert Hamernik from Dean Heyborne, November 16, 1993.

Chapter 4

Engineering at Pacific 1968 to 1990

Professor Gordon L. "Verne" Harrison, Chair of the Civil Engineering Department, became acting dean and led the search for the new dean. One of his contacts was Dr. Hugh Skilling, an electrical engineering faculty member at Stanford University. Dr. Skilling suggested that Dr. Robert L. Heyborne, an electrical engineering professor and researcher at Utah State University, be contacted. During his tenure at Pacific Dr. Heyborne often told the story about his call to Dr. Skilling. When Dr. Heyborne asked Dr. Skilling about The University of the Pacific's engineering program, Dr. Skilling hesitated for a moment and finally responded, "They have an excellent Conservatory of Music."

Professor Harrison's letter included a list of five objectives for the school. (4.1) The new dean was to 1) continue a quality education preparing the graduate to enter the profession or attend graduate school, 2) increase enrollment to 150 students incorporating a work-study program, 3) develop a work-study program, 4) welcome research and/or consulting, and 5) establish teaching loads not to exceed two courses a semester. Underlining these objectives was the need to build a quality faculty and programs to achieve accreditation by the national engineering body. Professor Harrison's letter also stated that the administration and Board of Regents assured "an increase in faculty by two and a doubling of the current budget over and above salaries." (4.1) Dr. Heyborne was in full support of the school's objectives. In a letter to Professor Harrison dated February 5, 1969, he wrote "accreditation is a must." He also supported the concept of a work-study program and the University's emphasis on teaching, but also felt that research should be encouraged. (4.2)

Dean Robert L. Heyborne, arrived on the Stockton campus on July 1, 1969 fully aware of the many challenges but he was assured that he had the support of the administration. Academic Vice



Dean Robert L. Heyborne

President Dr. Jack Bevans indicated that the position would be very challenging, but, he assured Professor Heyborne that, if he accepted the position, he could count on his full support for the program that he and his faculty implemented. Dr. Heyborne also knew he had the support of a small but dedicated faculty who was totally committed to the Cooperative Education Program proposed. The Engineering Academic Council on May 13, 1969 unanimously approved the following statement. (4.3)

Beginning with 1969-70 school year the graduation requirements for the School of Engineering of the University of the Pacific shall be as follows:

Two and one-half academic years devoted to mathematics, basic science, and engineering science, all integrated into a meaningful educational experience directed toward identification and solution of engineering problems. The two and one-half years shall include:

- (a) At least $\frac{1}{2}$ year of mathematics beyond trigonometry.
- (b) At least $\frac{1}{2}$ year of basic science (physics, chemistry and selected subjects from life and earth science).
- (c) One year of engineering sciences.
- (d) One-half year of humanities and social sciences.

The remaining 1-1/2 years devoted to those courses implementing the educational objectives.

The definition of one year's academic work and specifying the separate courses was left open because if the cooperative education program was adopted, it may be to the School of Engineering's advantage to operate under a school calendar which differed from the College of the Pacific.

Mr. J. Dudley Dawson, a consultant for the cooperative education program, visited campus on several occasions to assist the program's coordinator to define its objectives, develop helpful procedures, and, perhaps most importantly, to avoid pitfalls made by others. He recommended a "mandatory" cooperative education component, but warned that the lack of accreditation may present problems in placing students. He said that Federal funds to implement the program were available and added that only the intent to seek accreditation was important in obtaining funds. He also pointed out that if a college is just developing a co-op program the institution is eligible for funds from the Division Of College Support under Title III Developing Institution Funds. He stressed that the faculty must be in full support and the administration willing to provide the

financial needs for a full time coordinator, a secretary, travel, supplies, etc. in starting the program. Mr. Dawson pointed out that the cooperative education program is most advantageous to private schools because they can typically accommodate additional students without additional facilities. Ultimately, "the money received from additional students can completely support the co-op program." (4.4) Students currently enrolled in the traditional program were given the option of completing the cooperative education component or simply completing the required coursework in their major.

The implementation of the academic five year program presented a different set of problems but paralleled those faced by Professor White as described in the Bulletin of the College of the Pacific. (2.2) In a 1981 letter to Dean Carl Nosse of the Conservatory of Music, Dean Heyborne, successor to Dean McGee, wrote, "Professor White's plan to combine theory with practice through cooperation with industry was prophetic. That is precisely what we are doing." (4.5)

In November of 1969 the Cooperative Education program was approved by the University Academic Affairs Committee. It was thought that a critical weakness of the school was its inability to attract local students who could not afford the high tuition at a private school. In April of 1970 the Executive Policy Committee altered the structure of the CIP program to better enable qualified local students to enroll in engineering by assigning approximately 10% of the CIP yearly freshman admissions for the study of engineering. To implement the cooperative education component, Professor Helm Haas, a civil engineering faculty member, was reassigned and appointed full time coordinator of the program in February of 1970. His teaching position was filled with a new faculty member. Contact was made with more than 50 prospective employers of cooperative education students. In March of 1970 the program was formally announced by Dean Heyborne. He and Mr. Haas visited more than 30 Community Colleges in Northern California and spoke to numerous high school counselors. In 1970 a \$35,000 grant from the Department of Health, Education and Welfare helped fund the start up of the program. (4.6) The grant was renewed the following year and a second person was hired to help establish local and state industrial partners, and to establish contacts with community college faculty and students. This was done through the state's Engineering Liaison Committee (ELC) which was made up of representatives from the UC system, the state college schools, the private schools in the state, and all community colleges. The primary role of the ELC was to ensure that the academic programs at the community colleges satisfied the freshman and sophomore requirements at the four year schools so that a community college transfer student could expect to graduate in two

additional years. It was important to inform the community college representatives that UOP's five-year co-op program met the first two year requirements toward graduation, and this proved to be an excellent avenue for UOP to inform prospective students about the co-op program.

Participation in the co-op program began after the sophomore year. After passing that milestone, the student alternated classroom studies with full time paid professional practice at a employer allied with the student's major. The experience from co-op jobs cut across fields of industry, public service at all levels, and private consulting. Once implemented, a Cooperative Education staff person, often accompanied by the appropriate faculty member, made visits to the employer's facility and an evaluation process was developed where the student and the employer submitted input.

The impact of the coop program was immediate. The enrollment, which hovered around 55 to 60 students rose significantly. The number of new students, freshmen and transfers, rose to 99 in the Fall of 1970. This was an 83% increase from the previous year. (4.7) It needs to be noted that during the early 1970's engineering was suffering from a black eye due to the aircraft industry layoffs and engineering enrollment across the country, unlike that at UOP, declined. The Cooperative Education Program provided the student not only with a superior education by integrating classroom studies with real engineering projects but gave the student income to help defray the cost of college, career guidance and often job placement opportunities from a co-op employer, and an off campus cultural experience. As the program grew, students were placed with leading companies in California and throughout the United States, and in the late 1970's and 1980's students were placed in overseas positions in Japan and Germany.

The school's involvement with community activities changed. Programs such as the annual Highway Conference gave way to High School Institute for Science and Mathematics Teachers and Counselors. With the support of Western Electric Educational Fund (WEEF) high school teachers and counselors were invited to campus, all expenses paid, for the purpose of informing and encouraging the more qualified students about the Electrical Engineering program. The Institute was held on January 13, 1972 with 26 high schools represented by about 100 counselors and teachers. Following registration, Stanley McCaffery, the UOP president from 1971 to 1986, gave some opening remarks followed by Dean Heyborne speaking on the subject of "A World Without Engineers." (4.8) The conference featured five speakers covering education, private industry, and medicine. Following the Institute the University organized tours to various

industries. Sixteen schools and approximately 155 high school students were in attendance. Dean Heyborne also announced that the first Western Regional Cooperative Education Conference was to be held at the Sir Francis Drake Hotel (the location was changed to the Jack Tar Hotel because the response was too large to be held at the Sir Francis Drake Hotel) in San Francisco on November 27-28, 1972. Two national organizations, the Cooperative Education Association and the Cooperative Education Division of the American Society of Engineering Education assisted with their full support of the conference.

In a few years, UOP became the acknowledged leader in cooperative education in the western U.S. The West Coast Cooperative Education Conference drew over 450 attendees with key note speakers Peter Muirhead, Deputy Commissioner of the U.S. Office of Education and Dr. Frank Newman of Stanford University and Chair of the Task Force on Higher Education. Dean Heyborne was elected to the Board of Directors of the Cooperative Education Division of the American Society of Engineering Education (ASEE) and retained that post until other commitments called him to resign six years later. He was appointed Reviewer for the U.S. Department of Cooperative Education for cooperative education matters, and he also worked closely with the California legislature to assure that co-op students would not lose eligibility for state education support because of income partially offsetting tuition costs. Coordinators for the UOP Program conducted workshops and training sessions at dozens of universities and industries.

In addition to implementing the cooperative education program and community programs, Dean Heyborne immediately began to work toward accreditation concerns, i.e., to increase enrollment in a state where college and university education was relatively inexpensive, and to become recognized in the State of California for the advantages of the unique cooperative education program. Each challenge and future success presented a variety of different problems.

To address ECPD's 1961 inspection visit concerns that the physical plant housing the engineering laboratories was minimal, that the laboratory equipment was old and often out of date, and that the faculty offices were small and shared by two faculty which was viewed as preventing close student faculty interchanges during advising and counseling a student having academic difficulties. To correct these concerns required significant funding. The administration's promise to Dean Heyborne to support strengthening engineering was quickly put to the test. Baun Hall was renovated, a new Dean's office was built in wasted attic space. Later with the construction of the McCaffery Center, the old metal building serving as a

fluids laboratory was replaced with a new structure.

In October 1971 accreditation by the Engineering Council for Professional Development (ECPD) was requested for both the civil and electrical engineering degree programs. Both programs received the maximum time permissible by the ECPD team which spent two days on campus visiting with school administrators, consulted with supporting departments such as the library, admissions, mathematics and physics, met with the engineering faculty and reviewed student work which filled The Presidents' Room. Excerpts from the team's report include, "...The university administration appears to have demonstrated a real understanding of, as well as a strong commitment to, quality engineering education." They also noted, "...there is an excellent faculty balance in training, age and other measures of maturity such as teaching and professional experience ..." etc. (4.9) The accreditation was formally announced at the National ECPD Meeting in San Francisco on October 3-5, 1971. Dean Heyborne wrote, "Accreditation of our curriculums carries many advantages to students such as enhancing their opportunities for graduate school, to registration as a professional engineer, and to facilitate employment." (4.9) The school which in 1968-69 only had an acting dean, five faculty members and one secretary now had a permanent dean, eight full time faculty members, a full time coordinator and full time assistant coordinator/recruiter, and two secretaries.

Success does not come without problems. By 1972-73 the increase in enrollment, the introduction of the new University 4-1-4 calendar, laboratory updates and maintenance, and class size all came into play. Because of financial restraints, the Electrical Engineering Department delayed for one year the addition of a fifth faculty member resulting in teaching overloads and/or eliminating upper division electives. (4.10) The need for a full time technician to inventory and calibrate current equipment, assist in the preparation of lab demonstrations, etc. became more critical. (4.11) Due to vacation and sabbatical scheduling, the Civil Engineering Department also experienced staffing problems. Without one additional faculty member, all civil engineering department course offerings, student advising and department chair duties would have to be covered by two faculty members, Dr. James Morgali and Acting Department Chair Robert E. Hamernik. In the spring of 1973, Acting Chair Hamernik estimated the five year department renovation and equipment needs to be approximately \$ 60,000.00. (4.12)

As the student body grew, the school became more structured. A charter for the Engineering Council was adopted on December 14, 1970 and revised as needed

throughout the years. The purpose of the Council was to make decisions and act upon appropriate academic matters subject "to the approval of the dean, the UOP Academic Executive Policy Committee, and/or representative committees thereof." (4.13) In November of 1971 the Engineering Council Grievance Committee and Student Grievance Committee Procedures were developed. "The purpose of the document was to present a mechanism whereby a student may present and obtain a hearing of grievance." The final document was revised and adopted on December 9, 1971 by the Engineering Council. (4.14)

Professor Harrison announced his retirement to be effective at the end of the Fall Term of 1973. For more than twenty five years Professor Harrison worked tirelessly to develop and promote the School of Engineering, and he was described by his students as, "a tough but gentle teacher." He began teaching after completing his undergraduate studies at Oregon State University in 1935. Professor Harrison taught engineering drawing at Iowa State University while doing graduate work in Sanitary Engineering. He received his Master of Science degree in 1940 and came to Pacific in 1948. During his tenure at Pacific he was instrumental in the development of the civil engineering program serving as the department chair along with other



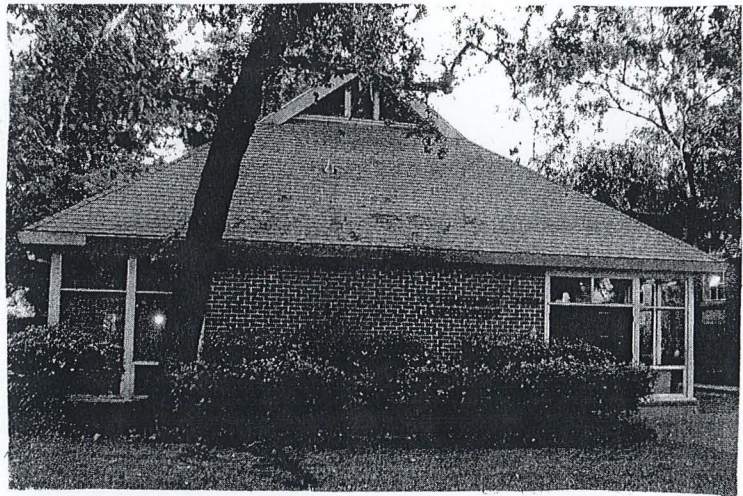
Professor Gordon "Verne" Harrison

administrative responsibilities. As noted earlier, Professor Harrison led the dean's search committee in the 1969 academic year. He was also active as a consultant in the design of several projects for the City of Stockton, the Calaveras Cement Company, the Calaveras Utility District, worked with both Darhl Dentoni Consulting Engineers and Synder & Associates Consulting Engineers. He was a registered Civil Engineer in the State of California, a member of American Society of Civil Engineers (ASCE), the American Society of Engineering Educators (ASEE), and the California Society of Professional Engineers (CSPE). Locally Professor Harrison served as a member of the San Joaquin Air Pollution Control District Hearing Board. At the May 1974 commencement, President McCaffery bestowed upon Professor Harrison the Order of the Pacific, the

Universities highest award given to a faculty member. He was also recognized by several of his former students and business associates who gave him a proper Friar's Club Roasting. Bob Young, Class of 1954, was the master of ceremonies and with the assistance of other graduates many memories were recalled.

At the 1973 graduation exercises, Professor Ray Linsley of Stanford University gave the commencement address. He was a world reknown expert in hydrology who authored several texts. In reponse to Dr. James Morgali's nomination, the University bestowed upon Dr. Linsley the Honorary Doctor of Science degree.

A major change took place in 1974 with the construction of the McCaffery Center. The old metal building housing the engineering fluids laboratory was in the footprint of the new Center and had to be removed and replaced. The new building was designed by the senior civil engineering class and constructed just west of Baun Hall. Because of limited funding there were no plans to complete the second floor, but because of the generosity of four



Engineering Fluids Laboratory

Engineering graduates, Ted Baun, Fred H. Cole, Henderson McGee (4.15) and Robert Clark, a student study area was built on the second floor of the laboratory. Remodeling of Baun Hall continued with more office space created from every unused area. A portion of the attic space in Baun Hall, which stored old records, books and miscellaneous unused items, was converted into office space for Dean Heyborne and his administrative assistant Mrs. Bess Earys.

With enrollment on the rise, President Stan McCaffery was pleased with a record number of applicants for the fall of 1979. In his newsletter of May 11, 1978 President McCaffery wrote, "As of May 1st, Engineering has received 250 applications, 34 more than last year. There is a limit on enrollment in engineering of 250 students and these applicants will be very carefully screened before admissions selections are made." (4.16)

Larry Hill co-op coordinator wrote, "The graduating class of 1975 is, I believe, an important milestone in the history of the School of Engineering. It represents the

first graduating class that has gone through the curriculum in the School of Engineering since cooperative education became a requirement for all students. All graduates of 1975 completed their cooperative education requirements and were awarded the Certificate of Cooperative Education." (4.17) Twenty eight were granted their Bachelor of Science degree that May.

In adapting to the University 4-1-4 school calendar, the co-op program created the need for 11 month appointments for all engineering faculty and staff. It was argued that this would re-vitalize the student-faculty relationships, allow the introduction of new elective courses, make possible the offering of a required course more than once a year, and improve student advising. In a memo to Vice President Robert Winterberg, Dean Heyborne indicated, "expenses associated with switching over to 11 month contracts would essentially be the increased cost for salaries." For the 1976-77 year, it was estimated the cost to be an additional \$43,437.00 and that additional student fees must be assessed to cover these costs. (4.18) In January of 1976 the Board of Regents approved a differential tuition plan for the School of Engineering for the express purpose of facilitating 11 month engineering faculty contracts. There was some reluctance by the faculty to give up their summer as they used this time for research and other forms of professional development. Throughout the ensuing years several faculty resigned over this issue.

The school was also preparing for the revisit from the Engineering Council of Professional Development accreditation team. The maximum six year accreditation cycle awarded in 1971 was ending. The faculty collected student homework and examinations, admissions, the library, the mathematics and physics departments were again informed and, of course, the administration was alerted. Once again the civil and electrical engineering programs received the maximum accreditation of six years given by ECPD.

Throughout the years UOP engineering students gained state and national recognition. In 1977 the Consulting Engineers Association of California (CEAC) began a state wide student scholarship program open to students studying in an ABET accredited curriculum. The top six state CEAC winners were automatically entered into the national competition sponsored by the American Consulting Engineers Association (ACEA), CEAC's parent organization. ACEA selected who they considered the top 15 engineering students in the United States. The students were judged at the CEAC level by professionals based on the their academic performance, student evaluation by the Dean and faculty members of the student's home school, a personal interview, extracurricular activities, and a

500 word essay on, "Why I am interested in pursuing a career in consulting engineering." In the first year of the CEAC scholarship Dean Heyborne had the privilege of telling the UOP campus and the Stockton community that Daniel Klinker, a senior civil engineering major, was selected by CEAC as their top engineering student in California. Through the years several UOP students were selected for this honor. In the years between 1977 and 1990 seven UOP students were chosen as the top engineering student in the State of California. After the state competition is completed, CEAC then forwards six students for the national competition. UOP students also faired well in the national competition. Several placed in the top fifteen nationally, two chosen for seventh place, and two UOP students, one in 1980 and a second one in 1982, were chosen to be the number three engineering student in the nation. Many of the students attributed their success to the cooperative education component which, in their opinion, added a maturity and application of engineering principles not seen in students from a highly theoretical program. The school's focus on effective teaching coupled with the cooperative education component resulted in outstanding graduates of which the School of Engineering, and the University, could be very proud.

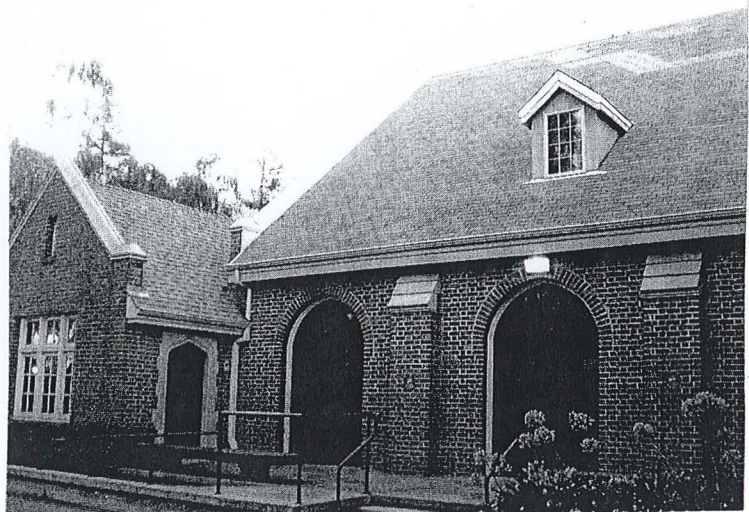
Other students received scholarships from the American Public Works Association, the Engineering Council of San Joaquin Valley, the Ladies Auxiliary of Sacramento Section ASCE, Who's Who in American University and Colleges, and graduates were recognized by being chosen to receive Pacific Alumni Awards. The faculty also received recognition. At the Spring 1979 commencement exercises, Professor James R. Morgali was the second civil engineering faculty member to be honored with the Distinguished Faculty Award. Dr Morgali joined the faculty in 1961 when he and Professor Harrison taught all courses required for the civil engineering degree, and he later took the lead role in leading the Engineering Management program. He advised students in the degree program throughout the eighties and into the mid nineties.

In his 1968 Newsletter, Dean McGee wrote that the School is considering getting a Wang Electronic Calculator System. (3.20) Ten years later, the School offered a Bachelor of Science degree program in Computer Engineering through the Electrical Engineering Department. The computer technology was well underway and engineering schools across the nation saw changes occurring in all their academic programs. The computer and electronic calculator became a part of people's life and its usage crossed all professions. The slide rule hanging from he waist identifying engineering students on campus during the fifties and sixties quickly became obsolete. Under the Chairmanship of Dr. Irwin D. Dunmire, the computer engineering program quickly grew in popularity and demand.

By September of 1979, the student body in engineering was around 365 and there were fifteen full time faculty, one full time technician and three secretaries, more than 100 employers participated in the cooperative education program with total student earnings exceeding \$2 million. Dean Heyborne noted, "it can no longer be said that engineering is the most expensive program on campus." (4.18) Larry Hill again addressed the 1979 graduating class noting that approximately fifteen percent of the graduates went on for an advanced degree. Students were accepted at M.I.T., Stanford University, U.C. Berkeley, University of Texas, University of Southern California and both San Jose State and Sacramento State. (4.19)

The 500th engineering degree was awarded in 1981, and the engineering enrollment grew to over 600 majors in the early to mid 1980s. This was partially due to the interest in computer engineering, and an increase in international students from the middle east countries and Malaysia. Although class sizes became large, the school remained committed to educating young men and women with the strong liberal arts heritage at UOP. The faculty shared a strong relationship with their students with their primary emphasis being on teaching.

With a larger number of students majoring in engineering, the facilities, classrooms, laboratories etc., were overcrowded and expansion of the physical plant became necessary. Anderson Hall, initially the campus dinning facility for the campus and later used as the dance studio, was converted into office space on the second floor. In addition, two electrical engineering laboratories and a computer laboratory were incorporated on the ground floor.

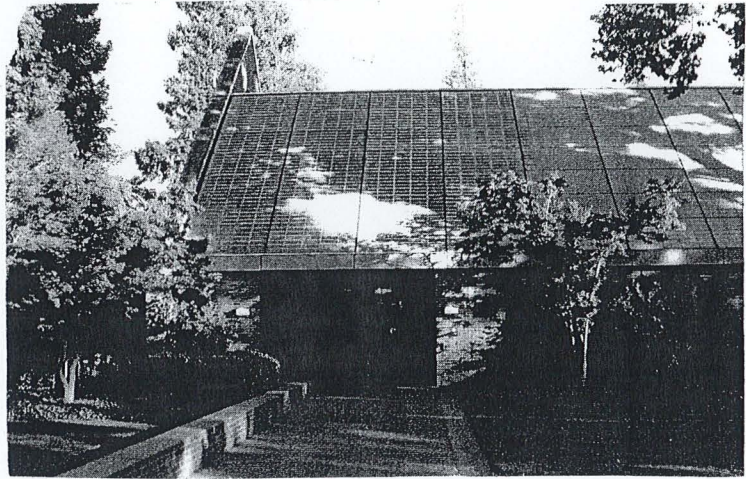


Anderson Hall

In 1981 a new degree in Engineering Physics was offered. This degree was a combination of classes in engineering courses, primarily electrical engineering courses, and the traditional classes taught in the physics department in the College of the Pacific. Dr Andres Rodriguez, former department chair of physics, proved to be a key person in the design and implementation of the program. He

was also the student advisor for this program and led the ABET accreditation preparations for the 1981 inspection. Unlike the computer program, it attracted a small number of students but proved to serve its students very well.

With the conversion of Baun Hall into all laboratories in the summer of 1979, President McCaffery noted that a new engineering building would be top priority in the "Campaign For A greater Pacific." An Engineering Alumni Advisory Committee was formed to assist the Development Office in raising funds. At the January 13, 1981 Board of Regents meeting, they, "adopted a resolution authorizing construction of a new building for the School of Engineering." (4.20) The \$ 1.67 million project was scheduled to start construction in the spring of 1981 and to be ready for use in February of 1982. Dean Heyborne played a major role in developing the program to raise funds. Mr Said Khoury, the father of a civil engineering graduate Toufic Khoury, Class of 1980, was the President of Consolidated Contractors Company, a world



Khoury Hall

wide construction firm. Dean Heyborne approached Mr. Khoury, told him about the School's history, its current needs and its future plans and he was successful in securing a major contribution from him. The building was named in honor of Mr. Khoury for his generous contribution, and the dedication of the building was held on April 5, 1983. The building changed the campus traffic patterns because the building's footprint was on a major east-west campus cross road between Southwest Hall on the south and Baun Hall on the north. This, like the construction of McCaffery Center, was one of the early construction projects which reduced vehicle traffic on campus. The planning process, although not formally recognized as a "green project" took into account environmental concerns saving many of the trees in the designated construction area, employing sun panels on the south roof and translucent roofing on the two north roofs in the saw tooth roof configuration.

On May 7, 1981 and with a school enrollment of 430 students, the faculty of the School of Engineering submitted a proposal to offer the Bachelor of Science Degree in Mechanical Engineering. The degree program was to start in the Fall of

1982 and "prepare students for the practice of mechanical engineering and complement our existing Bachelor of Science curricula in civil, electrical, computer and management engineering." (4.21) Mechanical engineers, who are employed by private industrial and governmental agencies, are involved in, "energy, power generation, environmental control, transportation, space and ocean exploration, manufacturing and other areas of vital national interest." (4.21) The first faculty appointment in the Fall of 1981 was Dr. Edwin Pejack. His responsibilities included developing an ABET approved curriculum, preparation of laboratories, and securing the faculty. Full staffing was expected to be complete by 1985 and the first graduates scheduled for Spring of 1987. Accreditation of the program would be sought the following year. Fortunately, with the construction of Khoury Hall, classroom, laboratory and office space was not deemed a problem.

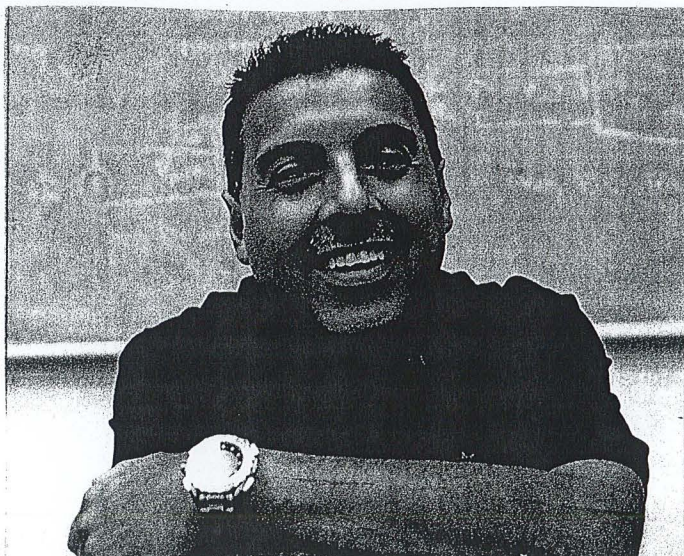
The Spring of 1981 saw two other major items addressed. The Constitution for the Association of Engineering Students was ratified. It establish a school government with its officers bound to recognize the rules, regulations and directives of the University of the Pacific. Membership included all students enrolled in the School of Engineering. The "supporters and former students" formed an organization known as, "The University of the Pacific School of Engineering Alumni Association." In Article II of the by-laws, the purpose of the organization was defined, and Article VII specified that the "Dean of the School of Engineering and the heads of each department of the School of Engineering shall be ex-officio members of the Governing Board without vote." (4.22)

The School's three new degree programs were successful in receiving the maximum ABET accreditation on their first ABET inspection. Computer Engineering was accredited in 1983, and both the Mechanical Engineering and Engineering Physics received full accreditation in 1986. The School's record for receiving the maximum accreditation allowed by ABET continued.

With the success of having five undergraduate accredited engineering programs, the School was most hopeful to extend its offerings with a graduate program. "During the summer term of 1984, Dean Heyborne requested the Department of Electrical Engineering and Computer Engineering to study the feasibility of a limited graduate program." (4.23) The ad-hoc committee was led by Dr. Dunmire, Department Chair, and included five other members from the electrical engineering department. The committee's proposal justified the need for the advanced degree and developed a program which would, "...introduce a Clinic concept of Industrial involvement." (4.23) The Clinic would involve graduate

students answering research questions presented by industrial clients giving the student direct interaction with both members from industry and the faculty. The team was required to provide oral and written reports at scheduled technical sessions. The co-op office was given the responsibility to contact and coordinate the industrial, business or government participants and the program was scheduled to start in the Fall of 1985. At the Academic Affairs Committee on December 20, 1984, Dean Heyborne stated, "The revenue charged the companies would be enough to offset the costs of the program." (4.24) The motion to approve the Master's Degree program in Electrical Engineering carried, and the first graduate degree was given in December of 1988. The program did not survive the test of time. In a memo dated April 8, 1997, Dean Brown wrote Provost Gilbertson, "The Engineering Academic Council voted unanimously on February 17, 1997 to discontinue the Master of Science in the Electrical Engineering Program." (4.25) Engineering enrollments were falling nation-wide and the lack of financial support for the graduate students were contributing factors however, the concept of a graduate program remained as a goal of the engineering faculty and administration. This goal was achieved in the Fall Term of 2009 under the leadership of Dean Ravi Jain.

Many UOP engineering graduates achieved much success in the professional world. Their achievements range from being CEO's, to presidents of various engineering and non-engineering companies and corporations to a female graduate who has achieved the rank of Admiral in the U.S. Navy Reserve. All deserve mentioning but an Electrical Engineering graduate of 1985, Jose M. Hernandez deserves special recognition at this point. His story is indeed unique. Coming from a home of migrant workers who constantly moved from Mexico to the United States to do field work, Jose tells of the impact that his second grade teacher and his parents made on his life. Jose was taught that any dream he has is within his reach, and his parents placed importance on a college education. The University's Community Involvement Program (CIP) which was established in 1969 gave Jose the opportunity to attend UOP. Inspired by Franklin Chang-Diaz, who in 1980 became the first Latino selected for the



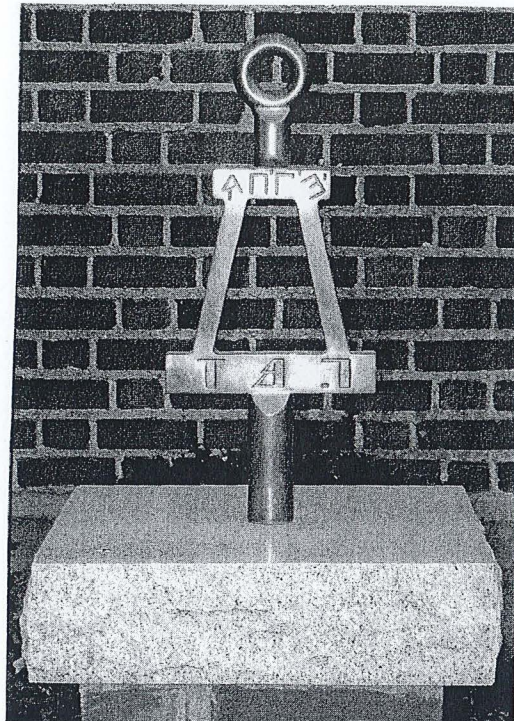
astronaut program, Jose overcame many obstacles to reach his dream of becoming an astronaut. With two liftoff postponements due to inclement weather, Jose, and six other astronauts on space flight STS-128, lifted off on August 28, 2009 on a fourteen day trip to the space station. Traveling over 5.7 million miles and circling the earth every 90 minutes, the crew went from daylight to darkness every 45 minutes. Astronaut Hernandez describes his two strongest memories as the feeling of weightlessness and seeing the fragile ozone surrounding the earth. The successful space flight landed at Edwards Air Force Base on September 11, 2009.

In preparation for the upcoming University's WASC accreditation visit and in response to a request from the Academic Vice President Oscar Jarvis, Dean Heyborne outlined the School's five year plan developed by the faculty at an off campus retreat. He wrote, of most importance was the quality in programs and faculty, "Over the past decade and a half, the school has emerged from virtual obscurity to one of prominence, with a national reputation for having the finest required Cooperative Education program in existence. Maintaining the quality that has earned this reputation is the cornerstone on which all other goals impinge." (4.26) Enrollment will essentially remain the same, approximately 650 students, as the facilities are "terribly strained and only marginally adequate at best to properly serve the number of students involved." (4.26) To enhance the school's visibility and strengthen the interface with industry, future plans would include the establishment of an Industrial Advisory Council.

Student Chapters of the professional societies also continued to achieve high awards. The Society of Women Engineers (SWE) won national recognition for being selected for the "Best Student Section Award" in Region Six which is composed of ten western states. UOP was cited for exceptional contributions in the area of liaison with young women in local high schools encouraging them to consider engineering as a profession. Perhaps the ultimate recognition of scholarship at an engineering school is to have a campus chapter of Tau Beta Pi, the National Engineering Honor Society. "The Tau Beta Pi Association was founded at Lehigh University in 1885 by Dr. Edward Higginson Williams Jr." (4.27) Dr. Williams was the head of the mining department and sought "to offer technical men as good a chance of recognition for superior scholarship in their field as that afforded by Phi Beta Kappa in the liberal arts and sciences." (4.28) The second chapter of Tau Beta Pi, the Alpha Chapter of Michigan, was founded at Michigan State University in 1892 and subsequently collegiate chapters across the country joined in the celebration of outstanding engineering students. The School of Engineering began the preliminary petition process in the Spring of

1986 for the board review on June 27, 1986, and if the petition was approved a campus visit of fifteen people would form the inspection team for a UOP campus visit tentatively scheduled for September 11, 1986. In preparation for the visit, Dean Heyborne wrote to University Administrators, "We have completed the two year "trial" period under the designation, Tau Beta Sigma and are now eligible for consideration as a full fledged affiliate of Tau Beta Pi." (4.28)

Reviewers after the visit were unanimous to recommend awarding UOP a chapter however there was some concern about rotating the presidency twice a year because of the co-op program. The team did not see this as sufficient grounds for denial and several of the reviewers cited the involvement and enthusiasm of the Dean and the faculty along with the uniqueness of the program as strong positive factors. Although this seemed like a lengthy process to some, Mr. James Froula, Secretary-Treasurer of Tau Beta Pi, said that UOP would be getting installed faster than the typical school. With the endorsement of the visiting team, the petition for membership would be acted



on at the convention in Kentucky on October 22-24, 1987. The petition for admission was again unanimously approved, and the formal induction of Tau Beta Pi 201st chapter, California Pi, was on March 5, 1988. The Tau Beta Pi "Bent" is proudly displayed in front of Baun Hall. Two years later, Lisa Endres, an electrical engineering major, was the recipient of the Edward H. Williams Jr. fellowship given to a student who plans to pursue a doctoral degree and to become a engineering teacher. This was only the tenth time this award was given. The School also maintained its chapter of the Electrical Engineering Honor Society, Eta Kappa Nu for outstanding students in electrical or computer engineering.

The cooperative education continued to excel. In a report dated January 17, 1989, Gary Martin wrote that the students, "are now seeking a cross cultural experience in addition to the technical training and exposure afforded by the program." (4.29) Twenty two percent of the students had coop experiences outside the United States and forty eight percent of the class had work appointments outside

of California. Dean Heyborne strengthened the value of the co-op experience when he appeared before the California Board of Registration on January 11, 1989. At this meeting Dean Heyborne presented arguments, and convinced the Board, that the co-op work experience should be accepted as part of the work experience required to apply for registration as a Professional Engineer in the State of California.

Dean Heyborne saw the 1500th engineering degree awarded in May of 1990 and announced that he planned to retire in July of 1990. Throughout his tenure as Dean, there was remarkable stability in both the faculty and staff. Dr. Robert E. Hamernik, was appointed Associate Dean in 1988 and Dr. David Q. Fletcher, who was appointed to the faculty in 1973, was selected to be the Chair of the Civil Engineering Department. Dr. Fletcher had the reputation of being a "tough but fair" teacher who was highly respected by his students. He was nominated by the students and selected by Dean Heyborne to give the School of Engineering commencement in 1978, and he was the first engineering faculty member to be awarded the University's Distinguished Faculty Award.

Dr. Dunmire also retired at the end of the 1989 school year. He led the Electrical Engineering Department since his arrival on campus in 1973 and also took the leadership in the development of the Computer Engineering Program in 1978. Since his retirement Dr. Dunmire has been active on campus serving as the treasurer for the UOP Emeriti Society. Dr. Richard Turpin assumed the chair position vacated by Dr. Dunmire's retirement.

- 4.1 Professor Harrison's letter to Robert Heyborne re: Dean's Position dated January 7, 1969.
- 4.2 Robert Heyborne's letter responding to Professor Harrison, dated February 5, 1969.
- 4.3 Memorandum of May 13, 1969 defining the School's graduation requirements. Signed by the faculty and Acting Dean.
- 4.4 Implementation of a College Program, Mr. J. Dudley Dawson, Notes by Helmut Haas, Convention in Flint Michigan, January 1969.
- 4.5 Letter from Dean Heyborne to Dean Nosse, Conservatory of Music, dated October 1, 1981.
- 4.6 University of the Pacific, Report by Dean Heyborne, October 26, 1970, p.5
- 4.7 Pacific Engineer, Vol. 1, No. 1, September 1971
- 4.8 Pacific Engineer, Vol. 1, No. 3, May 1972
- 4.9 Pacific Engineer, Vol. 1, No. 2, February 1972
- 4.10 Memorandum from Dean Heyborne to Dr. Alistar W. McCrone Academic

- Vice President, dated January 3, 1973.
- 4.11 Memorandum from W.A. Finchum, Chair EE Department, to Dean Heyborne, dated August 14, 1973.
 - 4.12 Memorandum from Robert E. Hamernik, to Dean Heyborne, dated February 27, 1972.
 - 4.13 Charter of Engineering Council (Revised 10/6/77)
 - 4.14 Engineering Council Grievances Committee and Student Grievance Procedures, November 1971
 - 4.15 Letter to Henderson E. McGee from Dean Heyborne, dated December 11, 1973
 - 4.16 Letter to Pacific Community from President McCaffery, dated May 11, 1978, p.4.
 - 4.17 Memorandum from Larry Hill, Co-op Coordinator, to Dean Heyborne and Faculty, dated May 29, 1975.
 - 4.18 Memorandum from Dean Heyborne, to Vice President Robert Winterberg, dated December 22, 1975.
 - 4.19 Memorandum from Larry Hill, Co-op Coordinator, to Dean Heyborne and Faculty, dated May 29, 1975.
 - 4.20 Memorandum from Dean Heyborne, to Faculty and Staff, dated January 16, 1981.
 - 4.21 Proposal for the Bachelor of Science in Mechanical Engineering, Submitted by The Faculty of the School Engineering, May 7, 1981.
 - 4.22 By-Laws, School of Engineering Alumni Association, March 21, 1981.
 - 4.23 Proposal A Graduate Program in Electrical Engineering, Department of Electrical and Computer Engineering, December 10, 1984.
 - 4.24 Minutes Academic Affairs Committee, Thursday, December 20, 1984.
 - 4.25 Memorandum from Ashland O. Brown, Dean School of Engineering, to Provost Gilbertson, dated April 8, 1997.
 - 4.26 Letter to Dr. Oscar Jarvis, Academic Vice President, President Dean Heyborne, dated June 4, 1986.
 - 4.27 Information about The Tau Beta Pi, 1885-1985, A Century of Honoring Excellence in Engineering, published September 1984.
 - 4.28 Memorandum from Dean Heyborne to University Administrators et. al. dated June 10, 1986.
 - 4.29 Report to the Dean, from Gary Martin, dated January 17, 1989.

Chapter 5

In Memory of Dean Robert L. Heyborne (1923-1996)

By the time he retired from UOP, Dean Heyborne was nationally recognized for his extraordinary efforts in engineering and cooperative education. Dean Heyborne chose to retire in 1990 after 20 years of outstanding service to UOP and the education community on a local, state and national levels. Being the senior Dean of Engineering Schools in California, he was well respected for his management style and leadership roles. His retirement ended a period in the history of the UOP School of Engineering that will be long remembered.

Following high school Dean Robert L. Heyborne, a native of McCormack, Utah, served over four years in the U.S. Navy during World War II before beginning college. He received his Bachelor of Science in Electrical Engineering (BSEE) from Utah State University (USU) in 1949. Following graduation he worked as chief engineer and general manager at several radio stations in Utah for six years. He then returned to USU for graduate study. During this period he taught and was appointed as an Assistant Professor after receiving his MSEE in 1960. He was honored for his teaching of electrical engineering in 1962 when he was chosen Professor of the Year. Professor Heyborne received a National Science Foundation Faculty Fellow to pursue his doctorate and was granted the Ph.D. from Stanford University in January 1967. He was a member of Sigma Xi whose members are chosen based on their research achievements. Dean Heyborne was also a member of Tau Beta Pi, Phi Kappa Phi, and Eta Kappa Nu honor societies. His resume also includes numerous professional



activities including Chairman of the Rocky Mountain Section of ASEE, Member of the Executive Committee of the Pacific Southwest Section of ASEE for three years, and Member of the National ASEE Developing Colleges Committee. He attended virtually all national, regional and local meetings of ASEE, and participated in many seminars and workshops designed to improve teaching. He was a member of IEEE, American Geophysical Union, International Scientific Radio Union (URSI) and presented technical papers at scientific meetings.

Facing three major problems in the School of Engineering Dean Heyborne quickly won the respect of his colleagues and the local engineering community. In February of 1972 Dean Heyborne was named "Engineer of the Year" at the Annual San Joaquin Valley Engineers Week Banquet. This group representing the many various engineering professions recognized and supported his accomplishments in revitalizing the UOP School of Engineering with the implementation of the cooperative education program and for guiding the school to full accreditation by ECPD. Throughout his tenure Dean Heyborne was recognized by local, state and national organizations. He served as Chair of the California Engineering Liaison Committee, Chair of the Pacific Southwest section of the American Society of Engineering Education (ASEE), National Vice President of ASEE, National Chair of the Cooperative Education Division of ASEE, and he authored numerous papers on Cooperative Education.

Dean Heyborne received several national awards for his efforts. In 1979 Dean Heyborne was honored with the Distinguished Alumnus Award from the College of Engineering at Utah State University. In 1981 the American Society of Engineering Education recognized Dean Heyborne for his contributions to cooperative education, and in 1983 he was the recipient of the prestigious national award from the Cooperative Education Division of ASEE, the Alvah K. Borman Award. Each year this award is given to one person, "who has made sustained, honorable and meritorious contributions to the betterment of engineering cooperative education." Three years later he received a second national recognition for his contribution to Cooperative Education. In 1986 he was the recipient of the ASEE Clement J. Freund Award "For Outstanding Contributions to the Aims and Ideals of Cooperative Education."

Dean Heyborne was elected to the Board of Directors of the Cooperative Education Division of the American Society of Engineering Education (ASEE) and retained that post until other commitments called him to resign after six years of service. He was appointed Reviewer for the U.S. Department of

Cooperative Education for cooperative education matters, and on the state level he worked closely with the California legislature to assure that co-op students would not lose eligibility for state education support because of work study income.

After Dean Heyborne's retirement he remained active in several community organizations. He was a member of the Rotary Club, Sons in Retirement Branch 46, the Grandfathers Club, and his church. Whether he was a fellow professional or simply a good friend, he was a teacher to all.

Along with his distinguished professional career, Dean Heyborne also had a very warm human side. From the freshman's first introduction to the Dean when they arrived on campus and enjoyed a barbeque at his home to their senior picnic, Dean Heyborne showed an interest in each student. Even graduation became personal. As each student crossed the stage to receive their diploma, Dean Heyborne recognized the student in a special way relating their achievements and activities while on campus and/or some significant event that happened on their cooperative education assignments. He would research the student's UOP application, their employer evaluations, their future goals and, of course, he always catered to students who wished to thank their parents for their financial support and encouragement throughout their five years at UOP.

Following the graduation ceremony Dean Heyborne could never be found on campus. He and his dog were camping somewhere in the mountains enjoying a well earned vacation fishing. The same disappearing act happened on the opening day of duck season. When asked if Dean Heyborne was free for a meeting, his Administrative Assistant, Bess Eayrs, always had Dean Heyborne busy at an engineering conference, in a committee meeting off campus, or gave some other excuse why he was not free to meet. After a few years, everyone knew better but realized that he was truly deserving of his time off. Although he was very supportive of faculty wishes to attend off campus meetings, conferences or some other school function, he always reviewed the reimbursement request carefully. Once he was put to the test. The Assistant Dean and his Administrative Assistant cooked up a phony request to see how closely he "added up the pennies" and as generous as he was, he recognized the prank and politely said "request denied."

Upon his death in 1996, The School of Engineering supported the establishment of the Robert L. Heyborne Scholarship to assist qualified undergraduate engineering students at the University of the Pacific. The first recipient of the

scholarship in 1999 was Roland Rutland, an electrical engineering major. Dean Heyborne's wife, Denese T. Heyborne, always had lunch with the scholarship recipient to tell the student about her husband and to learn the student's future plans. In recognition of the Dean's many contributions, Baun Hall has a conference room that bears his name.

Dean Heyborne was indeed the perfect person to assume the Dean's role in 1969.

As with any successful organization, credit goes to many people behind the scenes. His wife, Denese T. Heyborne, was an integral part of his home and professional life. Throughout their marriage she worked many different jobs and sacrificed much to support her husband so he could continue his education and pursue his career as an educator. At UOP, Denese worked as a secretary for the University in the School's Cooperative Education Office where she assisted the students in their co-op placements and always welcomed students to her home for social events. Denese was an avid supporter of her husband's work and the School of Engineering. Long after her retirement Denese was remembered by former students who often asked about her when they visited campus.

Dean Heyborne was also fortunate to have an Administrative Assistant, Bess Earys, who willingly gave her time, even on weekends, and was dedicated to the success of the School of Engineering. Her tenure started in 1963 as the secretary for Dean Henderson McGee and she continued to serve the School throughout her 25 years of service. Like Denese Heyborne, Bess is remembered by many former students.

Chapter 6

Engineering at Pacific 1990 to 2010

The 1990 academic year was a year of transition. Associate Dean Robert E. Hamernik served as the Interim Dean and responded to President Bill Atchley's (1987-1995) request for a review of the School's five year mandatory cooperative education program in preparation for the University's upcoming accreditation visit by the Western Association Schools and Colleges (WASC). Dr. Richard H. Turpin was appointed chair of the Dean's search committee.

After an extensive review of several excellent candidates, Dr. Ashland O. Brown was appointed the sixth Dean of the School of Engineering in September of 1991. Dean Brown earned his master's degree in 1968 and his doctorate in 1974. Both degrees were in mechanical engineering from the University of Connecticut. Prior to his appointment at South Carolina State College, Dean Brown's professional resume included seven years as Principal Engineer for Ford Motor Company followed by five years as an engineering manager at General Motors Corporation. As Dean of the School of Engineering Technology at South Carolina State College he was responsible for future planning and coordination of instructional activities, all budget preparations, and overseeing the activities of the engineering program at the South Carolina State College satellite campuses. During his tenure at that institution, Dean Brown developed a five-year plan for the school which included implementing a new degree program in electrical engineering technology. He also created a school advisory council composed of industrial leaders and led the efforts to create partnerships with several industries. In 1989 he led that school's successful efforts for reaccreditation in three technology programs. Commenting on his professional background and prior education experiences, UOP President Bill Atchley said at the time of Dean Brown's appointment, "His leadership skills, industry background and success in forming partnerships with corporations are impressive, and I have every confidence that UOP will benefit from his presence." (6.1)



Ash Brown

As noted, one of Dean Brown's first endeavors at UOP was to establish an Industrial Advisory Council to help define the school's mission and vision. The Council identified three areas needed for long term stability of the school. These were 1) Undergraduate Scholarships, 2) Updated Laboratory Facilities, and 3) The Need for Faculty Growth and Development. Engineering enrollment nationwide dropped significantly in the late eighties and one of the new dean's high priorities was to again address the enrollment question. The cooperative education program continued to be very successful in attracting students to the University. The co-op office "sailed into uncharted territory this last semester (Spring Term of 1995) with the placement of all Co-op students seven weeks prior to end of the Spring semester." (6.2) Seventy-seven students were placed during the 1994-95 academic year including a student working in Kobe, Japan. Dean Brown insisted that the mandatory co-op program remain at the very core of the engineering programs.

Off campus Dean Brown developed a partnership with Lawrence Livermore National Laboratory (LLNL). The Memo of Agreement and Intent had as its goal, "... the formalization of a collaborative effort in which the resources of the Lawrence Livermore National Laboratory are used to support the University of the Pacific in facilitating the outreach to private industry in the development of technology transfer networks to assist regional business and industry in acquiring and implementing advanced technology." (6.3) The Memo of Understanding and Intent was signed by both parties on July 1, 1993.

The engineering students continued to work with the City of Stockton and local engineering societies by assisting the city in their clean-up operations along the Calaveras River. In the spring of 1993 the student ASCE chapter was honored with a "first-of-its-kind" plaque for the students work in cutting weeds, removing trash, and painting out graffiti along the Calaveras bike path.

Since its beginning it was thought that the cooperative education program should provide an opportunity for some financially disadvantaged students to attend UOP. The School has consistently worked on additional programs in hopes of attracting many deserving students to engineering. The School's Minority Engineering Program (MEP) received a \$10,000 grant in 1993 from the Pacific Telesis Foundation. This was the second straight year that UOP's program was recognized by the Pacific Telesis Corporation. The money was used for financial aid awards. The following spring the program received its second \$5,000 donation from the Spink Corporation with the funds going towards scholarship and leadership awards. In 1995 the Mathematics, Engineering, Science

Achievements (MESA) group received a grant of \$51,000 from the California Department of Education and the Statewide MESA Office. These funds were used for an outreach program directed at Stockton and San Joaquin County elementary, middle, and high school students. The MESA continuum, of which MEP was a part, was very successful in 1993 but dependent upon state financing. Pacific has been referred to as the "poster child" for MESA Statewide accomplishments. The School continued to develop a range of innovative initiatives including the concept of matching Cal Grants dollar-for-dollar and the Engineering Industry Fellowships (EIF). The EIF program first launched in 1997 with the concept that the program would work through MESA as a means to recruit minority students but it became an increasingly enticing program not only for minority students but also for all prospective and currently enrolled students. The School of Engineering and Computer Science (the school title changed in 2002 when the Computer Science program moved from the College of the Pacific to the School of Engineering) is proud to continue supporting a program that is unlike any other amongst other schools in providing invaluable opportunities for its students. The EIF program provides an open door for companies to access some of Pacific's high caliber engineering and computer science students. Since the start of the program, over 50 companies and around 100 students have participated in the EIF program. Through the involvement of the program, companies will have first-hand pick from young talented students to bring on as a full-time employee after degree completion. "Each industry sponsor makes a good-faith five year commitment to its fellowship student."(6.4)

As usual, the period in preparation for an ABET visit kept the faculty and staff extra busy. With five programs asking for reaccreditation, coordination between departments became more critical to ensure success in the 1994-95 ABET inspection. The Dean, the faculty and the staff were very proud to announce that all five programs once again received the maximum six year ABET accreditation. The chair of the accreditation committee referred to the cooperative education program as, "the crown jewel of the curriculum."

In April of 1995, the School lost a dear friend and benefactor, Robert E. Young, Class of 1954. As a student he was President of Omega Phi Alpha Fraternity and his leadership was clearly evident during his professional career serving as President of Robert E. Young Engineers, The Spink Corporation, the Consulting Engineers Council, the California Board of Registration, the Sacramento Engineers Club, and the Medical Research Foundation. Mr. Young's expertise extended over three areas of engineering. In the state of California, he was a licensed as a professional engineer in Civil Engineering, Mechanical Engineering

and Structural Engineering. In preparing for the initial, and subsequent, ABET inspection visits, Mr. Young was extremely helpful to Dean Heyborne. He consistently volunteered to serve on the ABET team as the representative for the Board of Registration. Under Dean Brown, Mr. Young was a major contributor to the School's Industrial Council serving as Chairman of the Civil Engineering Sub-council. At the University level, Bob was a charter member of the UOP Feather River Inn Committee. In this role he supervised UOP civil engineering students in preparing cost estimates for renovating the Main Lodge and the Del Norte Lodge.

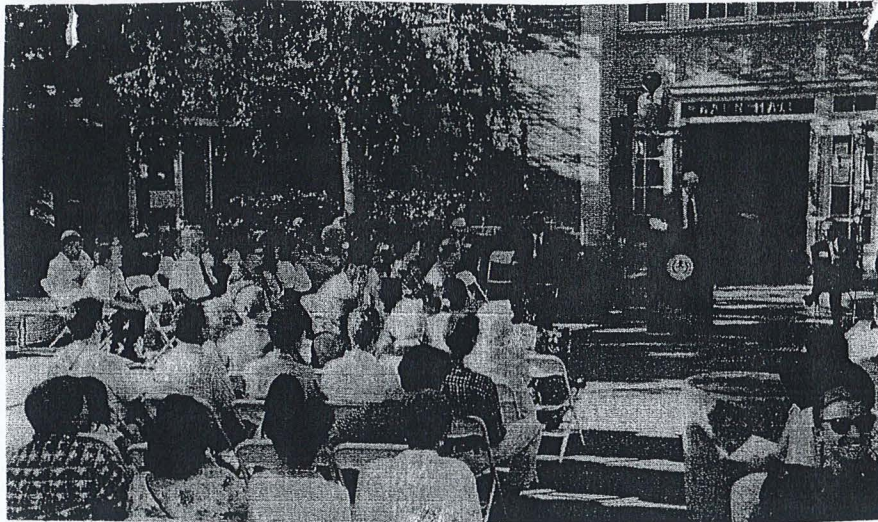


Meanwhile the University was busy undertaking the "Fulfilling the Promise" campaign seeking funds for scholarships and endowments. President Donald DeRosa (1995-2009) was appointed the 23rd President of the University of the Pacific. He chose as his Provost, Dr Philip Gilbertson. With the new administration on campus, Dean Brown and key members of the School of Engineering met with President DeRosa and Provost Gilbertson on April 30, 1996 to outline the School's History and Mission Statement along with its governance procedures, information about the various academic degree programs, an introduction to the cooperative education segment, a break down of the physical plant and laboratories, and a short listing of some of the student awards and graduate achievements in the professional world.

California Phi Chapter of Tau Beta Pi at UOP continued to show its presence on and off campus. The chapter, "garnered both a Projects Award and a Secretary's Commendation" at the National Convention in Cleveland, Ohio. These awards are based on the annual report of the chapter's activities at the previous year's convention.

Dean Brown led the School's 40th Anniversary of the School of Engineering on October 18, 1997 with a celebration at the entrance to Baun Hall. The campus had indeed changed significantly since the days when faculty parked their cars behind Baun Hall and all engineering classes were held in that one building. In attendance were more than 250 alumni spanning many years, students, community friends and supporters who joined together to help celebrate this milestone. The program included words from Regent Emeritus Ted Baun and

President Donald DeRosa. Dean Brown noted that, "The mission of the School of Engineering is to provide a superior, student-centered learning environment which emphasizes close faculty-student interaction and cooperative education in



Ted Baun at podium 40th Anniversary of School of Engineering

order to prepare graduates who excel in the engineering profession, are qualified to pursue advanced degrees, and possess the technical knowledge, critical thinking skills, and ethical values which are needed for leadership in developing and applying technology for the betterment of society and sustaining the world environment." (6.5)

Dean Brown resigned the dean's position in 1998 and chose to return to the classroom as a Professor of Mechanical Engineering. During his tenure he was credited with creating the Engineering Industrial Council, bringing the Mathematics, Engineering and Science Achievement program (MESA) to the UOP campus, he served as a program evaluator for the Western Association of Schools and Colleges (WASC), and was a reviewer for the National Science Foundation (NSF). Provost Gilbertson wrote, "Dean Brown's contributions to the School of Engineering are notable" and, "His congenial collaboration has been a consistent asset." (6.6) Dr. Richard Turpin, Professor of Electrical Engineering, was appointed Interim Dean and a nationwide search immediately began to find Dean Brown's successor.

The 1997-98 academic year saw the retirement of three faculty members who, together, had approximately 100 years of teaching at UOP. Associate Dean Robert Hamernik, who was known by most people as simply "Hamernik" came to UOP in 1962 in the civil engineering department, served as department chair

for more than a decade, was named Engineer of the Year by the San Joaquin Engineers Joint Council in 1990, led ABET preparations on campus, was an ABET evaluator for over ten years, and received the University's Distinguished Faculty Award in 1995. He was the third member of the Civil Engineering Faculty to be so honored. Dr. Andre Rodriguez, a native of Cuba, began teaching at Covell College in 1964 and later transferred to the College of the Pacific Department of Physics. He was instrumental in implementing the School's Engineering Physics program and in 1987 his position changed to Professor of Physics and Engineering. He taught the popular Summer Science Institute for local middle and high school students. Dr. Rodriguez received the Faye and Alex Spanos Distinguished Teaching Award in 1979, the Faculty Award in 1987, the Eberhardt Teacher/Scholar Award in 1990 and the Distinguished Education and Service Award from the American Association of Electrical Engineers in 1993. Dr. Thuan "Van" Nguyen's career began as Valedictorian of his class. He earned a degree in Vietnamese literature, French, English and Chinese. He also holds an economics degree from University of Mexico and both the MSEE and PhD in electrical engineering from Stanford University. He joked about his first class at UOP which had two students saying "Sometimes, half the class was absent."

Following the lead of these three faculty members mentioned above, Dr. James R. Morgali, who joined the civil engineering department in the Fall of 1961, retired in 1999. Dr. Morgali joined Vern Harrison as the two member civil engineering department for the 1961-62 academic year. Throughout the tenure he assumed major responsibility for the development of the Engineering Management (EM) program, advising the EM students and was appointed the program's Director. In January 1998, Dr. Morgali was appointed Assistant Dean for Academic Affairs. He served on numerous school and university committees and for his outstanding dedication to teaching and service, he received the University's Distinguished Faculty Award in 1979.

The School opened its doors to non-engineering majors with the introduction of the Minor in Technology program in 1998. It was thought that this program, "provides an introduction to various aspects of engineering and technology which will strengthen a student's employment qualifications." (6.7) An August 1988 article in the Interface pointed out, "84% of corporate human resource directors believe that science literacy will be a requirement for entry level jobs in the future." (6.8) The program has served as an effective vehicle for a modest number of students.

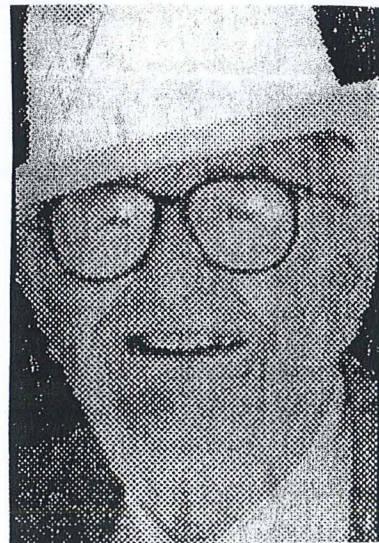
The School of Engineering mourned the loss of Robert C. Johanson, Professor of

Civil Engineering, who died August 21, 1999 at Heathrow Airport in London. Professor Johanson was in route back to Stockton from his native South Africa where he was consulting with local agencies to model and predict changing of land use and the flow of water. Dr. Johanson received his bachelor's and master's degrees, with distinction, from the University of Natal, South Africa and his doctorate from Stanford University. In the seventies Dr. Johanson co-developed a Hydrology Simulation Program in Fortran (HSPF) and was a consultant in the use of HSPF. During his tenure at UOP he was a member of Pacific's Academic Council, Academic Affairs and Faculty Compensation committees. Interim Dean Richard Turpin said, "Rob was respected by all as a devoted University citizen who always gave of himself. We will miss his cheerful attitude, his marvelous sense of humor, his technical and teaching skills, but most importantly, we will miss Rob, our friend." (6.9)



Dr. Rob Johanson

Five months later the School and the University lost another dear friend. Regent Emeritus Ted Baun passed away on January 18, 2000. His was President of the Board of Regents for 23 of the 44 years he served. Giving one million dollars to the School of Engineering, he obviously was a strong supporter of engineering, but his generosity toward the University is also seen around campus. He gave financial support to the funding of the Baun Fitness Center, the Pacific Aquatics Center, and various athletic programs. He was known to have supported projects but requested that his contribution need not be acknowledged publicly. Board of Regents President Robert Monagan noted, "He would snoop around campus and say, "Here's what needs to be done," and then he'd provide the funds to do it." (6.11) Mr. Baun started a road construction company in Fresno, CA

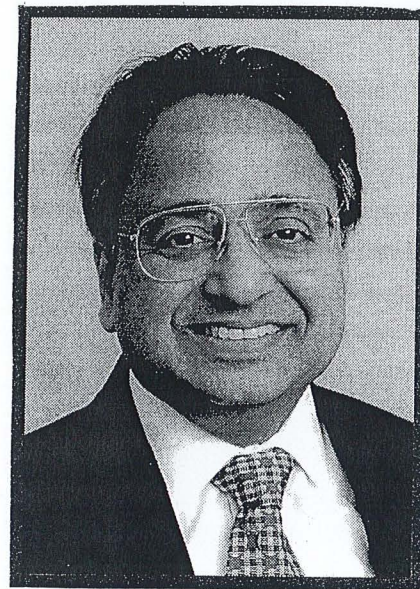


Regent Emeritus Ted Baun

specializing in building California's highways. He served his community as president of Fresno Chamber of Commerce and the Fresno Kiwanis. Perhaps Brian Kolze, Head Coach Women's Softball, said it best, "He was Pacific. I'm sure his blood was orange and black." (6.10)

As the decade was ending, the School of Engineering search committee completed their review of the Dean candidates, and based on the position announcement in the Chronicle of Higher Education premise that, "The Dean should provide vision and leadership for growth of the School, be committed to excellence in teaching and scholarship, and be able to interact effectively with the University and business communities."

Dr. Ravi Jain was appointed Dean of the School of Engineering effective June 24, 2000. In announcing his appointment, President DeRosa wrote, "Professor Jain is an internationally recognized scholar, teacher and executive administrator of successful engineering programs and projects." (6.12) Provost Gilbertson wrote, "Dr. Jain is currently Professor of Civil and Environmental Engineering, Director of the Center for Environmental Assessment and Policy, and Director of (the) Environmental Engineering Management Graduate Program at the University of Cincinnati College of Engineering." (6.13)



Dean Ravi Jain

Upon his appointment, Dr. Jain said that effectively implementing any major change would require a deeper understanding of the School, its resources, and the faculty. He did, however, express concern for "three changes: first, increasing the enrollment; second, initiating a graduate program; and third, improving external relations." Dean Jain immediately began to identify the faculty strengths, the student concerns, the laboratory needs, and the overall health of the School. Accreditation was three years away but it is of importance to the continued success of the School, and the age old question of enrollment is always a concern of the Dean and the University administration.

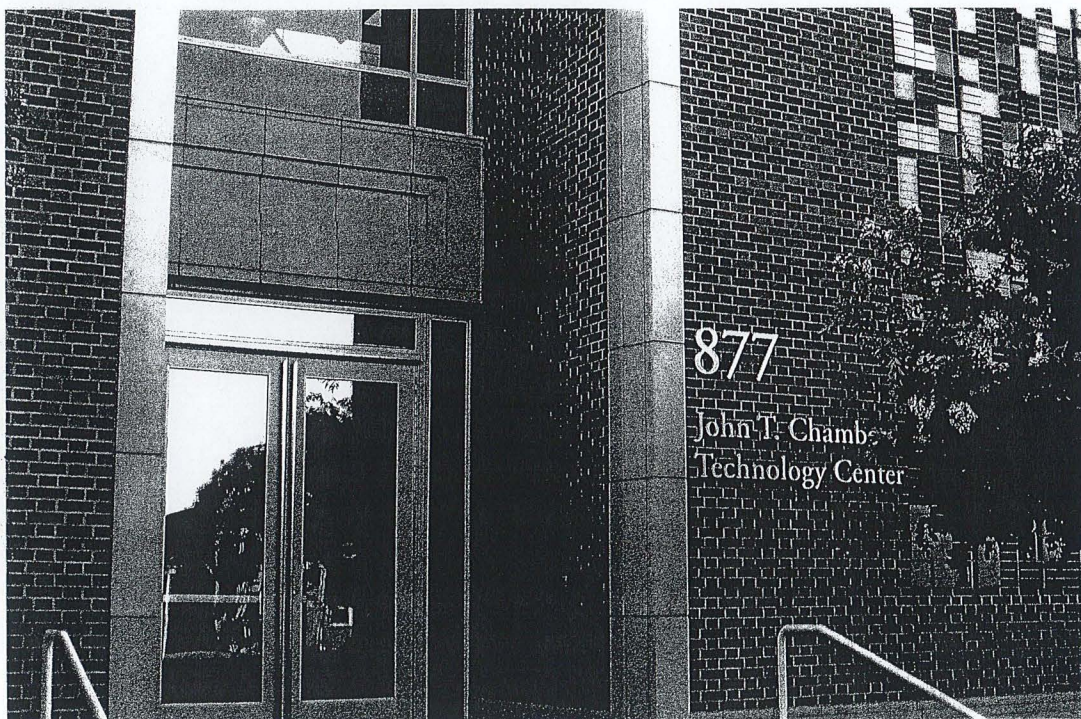
Although this writing covers the history of the School to the year 2000, several items that happened under Dean Jain's administration are worthy of being

included. As I stated in the forward, I hope someone will expand on these items, and others that I am unaware of, which occurred during the 21st century.

- The School introduced a new major in 2002, Bioengineering. One of many tangible signs of progress for this program is that there are now Pacific bioengineering alumni who are hiring current bioengineering students for co-op positions. The goal is to someday become a department.
- A major change occurred in the 2002 academic year. The Department of Computer Science which was housed in "The College" transferred to the School of Engineering which then became the School of Engineering and Computer Science (SOECS). This major offers a strong background in the theory and use of computers. The program is accredited by ABET.
- Engineering students were recognized by Tau Beta Pi. In 2003 Elizabeth Basha received a Tau Beta Pi Fellowship to attend MIT, and the following year Jim Martin received a Tau Beta Pi Graduate Fellowship to support his first year of graduate study. Nation wide, approximately 30 fellowships are granted each year and to have two students from UOP receive a fellowship in consecutive years was an outstanding achievement. The Society of Women Engineers (SWE) under the leadership of Dr. Louise Stark also excelled. The SWE team competed against schools from states across the nation and took first place in the Boeing Team Tech Competition. (6.14), and in 2007 they won the National Outstanding Collegiate Activities Award for their work with Expanding Your Horizons. (6.15) In May of 2010, Benjamin Alldritt, a mechanical engineering graduate was awarded a Fullbright Scholarship.
- The faculty also continued to receive honors both on and off campus. Dr. Camilla Saviz received the ASCE Zone IV New Faculty Excellence in Teaching Award. Zone IV comprises all the states west of the Rocky Mountains and only one award is given each year. In the spring of 2004, Associate Dean Dr. Louise Stark was named "Engineer of the Year" by the San Joaquin Engineers Council. Dr Stark joined the faculty in 1992 and chose Pacific because its emphasis was on teaching. But, she is a strong supporter of research receiving the Eberhardt Teacher Scholar Award and in 2001 the Distinguished Faculty Research Lecturer. (6.16)
- Dr. Abel Fernandez announced full ABET accreditation of the Engineering Management (EM) program effective in 2004. It is the only accredited EM degree program on the west coast. The UOP program was awarded the 2004-05 Founder's Award given by the American Society of Engineering Management (ASEM). Only one such award is given each year in recognition of "Excellence in Academic Leadership of Undergraduate Education programs in Engineering Management." (6.17)

- Three new programs began under the leadership of Dean Jain. They are the Natural Resources Institute (NRI) which began in the summer of 2009 and is a University-wide initiative involved in natural resource issues. The Pacific Resources Research Center (PRRC) is involved with research for the construction and materials industries focusing on sustainability. The PRRC received a \$2 million grant to develop a sustainable cement production technology. The Ecological Engineering Research program (EERP) deals with water quality and ecosystem restoration projects in the San Joaquin River. (6.18)
- Dean Jain was successful in restarting a graduate program in Engineering Science. The first class enrolled in the fall of 2009 and the program appears to be receiving considerable interest as enrollment is growing.

Since his appointment, Dean Jain has expressed the need to update the existing laboratories and additional space for growth. Overcoming several hurdles, he announced that the Board of Regents approved the construction of a new \$12 million facility and that it will be named, "The John T. Chambers School of Engineering and Computer Science Technology Center." (6.19) The site chosen



John T. Chambers Technology Center

for the new building required removing a long standing landmark on campus. The old structure housed the original bookstore, the coffee shop and the barber

shop. The ground breaking ceremony was held on April 24, 2009, and the new "Technology Center" is Pacific's second green building with LEED certification. Dean Jain expressed his thanks to the many alumni and friends who contributed to the building fund. Ron Shelly, EM Class of '65, who after completing his Masters in Industrial Engineering at Stanford University and a 30 year career with Texas Instruments, showed his appreciation for the education he received at UOP by committing, "... a gift to name two laboratories..." in the new building. Both Dr. Morgali and Dr. Hamernik were surprised and truly humbled when they learned of this honor at a dinner meeting. (6.20) The building opened for teaching and research in the fall of 2010.

The history would be incomplete without a few words about Dr. David Q. Fletcher, Professor of Civil Engineering. His contributions to the School have been many. He was appointed to the civil engineering staff in 1973, was named Chair of the Civil Engineering Department in 1988, and retired at the end of the 2006 summer term. In 1978 the students asked Dean Heyborne to invite Dr. Fletcher to give the engineering commencement address. This is the only time a faculty member has been awarded this honor. He was an excellent teacher and introduced the first course in finite element analysis and structural dynamics into the civil engineering curriculum. In 1983 he received the University's Distinguished Faculty Award and was the first member of the engineering faculty to so honored. (7.11) Graduates remember Dr. Fletcher as being "tough but fair" and open to discuss homework, advising etc. During his tenure he willingly accepted responsibilities on School committees, campus wide committees, chaired search committees, and for a period of time served as tennis coach and later as golf coach. Dr. Fletcher was recognized for his teaching and consulting expertise and was named "Engineer of the Year" by the San Joaquin Engineers Council in 2006. In the spring of 2007 Dr. Fletcher joined three other UOP faculty members and over one hundred other musicians who played a one hour concert at Carnegie Hall.

With the opening of the Chambers Center and the relocation of the Dean's office from Baun Hall to the new facility, the heart of the School has been physically moved. Engineering started in one old boiler house, Baun Hall, and over the years has spread to several buildings across the Stockton campus. Change is inevitable. In time many will forget about the humble beginning of the School but hopefully this history will help preserve the memory of the early days facing possible closing of its doors, the work and dedication of Dean McGee and Dean Heyborne, the School's growth and it's place of prominence at the University of the Pacific.

- 6.1 UOP News release, Contact Tim Turpin, dated May 3, 1991.
- 6.2 School of Engineering, The Rock, Volume 3, Number 1, David Rosselli, dated Summer 1995.
- 6.3 Memo of Agreement and Intent between UOP School of Engineering and LLL, dated July 1, 1993.
- 6.4 School of Engineering, The Rock, Spring 1999, Industry Partnership, p.10.
- 6.5 40th Anniversary Program of the School of Engineering, October 18, 1997.
- 6.6 University Bulletin, Volume 14, Number 17, Wednesday November 12, 1997, p. 3.
- 6.7 Minor in Technology by Gary Martin et. al. dated 12/12/98
- 6.8 The Interface, August 1998, Number 2, "Wanted a Few Good Engineers by Chalmers F. Sechrist, PhD.
- 6.9 School of Engineering, The Rock, Spring 1999, Dean's Message, p. 1 and 2.
- 6.10 The Record Sports, by Lori Gilbert, Wednesday, January 12, 2000
- 6.11 Chronicle of Higher Education, Announcement for Dean, School of Engineering, February 21, 1990/ B71.
- 6.12 University of the Pacific Bulletin, Volume 43, Number 43, Wednesday June 14, 2000.
- 6.13 Letter to School of Engineering Faculty, Students and Staff from Provost Philip N. Gilbertson, dated May 30, 2000
- 6.14 School of Engineering and Computer Science, Fall 2004, Pacific Students Receive Tau Beta Pi Fellowships Two Consecutive Years,p.3 and Pacific SWE Rocks the National Conference, p. 14
- 6.15 School of Engineering and Computer Science, Winter 2007, Pacific SWE Place for the Third Year in a Row in the SWE National Team Tech Competition, p. 13
- 6.16 School of Engineering and Computer Science, Spring 2004, Dr. Louise Stark named 2004 San Joaquin County Engineer of the Year, p.1 and Excellence Award for New Faculty, p. 3
- 6.17 School of Engineering and Computer Science, Spring 2005, Engineering Management Recipient of National award for Outstanding Undergraduate Program in U.S., p. 9
- 6.18 The Rock 2010, UOP School of Engineering and Computer Science, p. 5
- 6.19 UOP Bulletin, Volume 50, Number 14, April 4, 2007
- 6.20 Pacific Review, Volume 93, number 2, Spring 2006, p. 26-27

Post-log, After Thoughts ...

I appreciated the comments and suggestions given to me by several of my colleagues who read some early drafts of this work. We did not always agree, memories grow cold with time, but I chose the words that best reflect my memories of my years on the UOP campus with appropriate references cited. Writing the history of the School of Engineering has been enjoyable and has given me the opportunity to reflect on how the University has, and has not, changed over the five decades since the early sixties.

When I arrived on campus in September of 1962 for the Fall semester, teaching was truly the faculty's major responsibility with three or four courses per semester being the typical teaching load. Other responsibilities such as school and university committee assignments, student recruitment, homecoming weekend activities, etc. were noted on the individual's semester time sheet, but I clearly remember being told by Dean McGee not to exceed 40 hours a week. Today the University personnel publicly identify the University as a student-centered institution, but when evaluations and promotions are considered, research and publications are critical. Committee service and participation in University functions have been de-emphasized, and publication and the generation of dollars are clearly of greater value. I hope the words of David Daube found in the June 19, 1975 Danforth Foundation Shop Talk citing the importance of teaching will not be forgotten at Pacific nor will Pacific ever abandon the close student-faculty philosophy with attention given to each student as needed..

With today's publication and research expectations I probably would not have been offered a teaching position at UOP. If offered, I probably would not have accepted. When inquiring about a teaching position, I was informed by larger universities that the terminal degree would be necessary for a faculty appointment and was encouraged to pursue additional graduate work. The need for the terminal degree was not mentioned in my campus interview with Professor Harrison or Academic Vice President Samuel Meyers. Being awarded a sabbatical leave from UOP and receiving a National Science Fellowship, I enrolled in a PhD program at Oregon State University. It turned out that the letter congratulating me of my promotion to full professor was followed by a second letter stating my promotion was contingent on my completing the PhD degree.

During the sixties, all five engineering faculty members, the dean and his secretary, now called administrative assistants, were all housed in one building, Baun Hall. Throughout these stressful years the practice of a strong "student-centered" education was number one priority to Dean Heyborne and the faculty. One could not deny the critical need for additional space in the late seventies and early eighties when enrollment tipped the 600 mark, but the spread of the faculty and staff to different buildings started the break-up of the faculty unity. In addition, the introduction of new engineering majors and the engineering ABET accreditation demands drove a wedge into a common core curriculum taken by all engineering majors.

A campus wide concern in the sixties, the General Education requirement, appears to still be under discussion. The evolution of a student's general education requirements for graduation has gone from the old "cafeteria style" to the humanity-social distribution under the 4-1-4 academic calendar, and today the students meet the more formal General Education program. Regardless of the plan students opinion varied widely.

Many positive changes have occurred but the inevitable cycle of ups and downs in enrollment undeniably is a serious concern for all administrators.

Apparently it is no longer correct to say UOP, now the University is simply called "PACIFIC" and one no longer hears the phrase "The Pacific Family."

Go Pacific!

