

W. H. Hattabaugh To Attend UNM On Fellowship

William H. Hattabaugh, Code 553, has been awarded a nine months Fellowship to participate in the Program for Advanced Study in Public Science Policy and Administration at the University of New Mexico. This program is sponsored by the University of New Mexico Division of Public Administration, with support of the National Aeronautics and Space Administration and is limited to 19 members from Federal, state, and local government throughout the United States.

Hattabaugh is the first Navy laboratory participant in this program. He will commence studies in September.

Hattabaugh graduated from Oregon State University with a Bachelor of Science degree in General Science in 1953. He also attended UCLA's Modern Engineering Program in 1968. He came to the Naval Weapons



NEW AFS STUDENT — The Ed Romero family, who reside at 222 Shangrila Circle on the Center, have a new addition for the 1970-71 school year, Susana Kitowski, from Montevideo, Uruguay, this year's Foreign Exchange Student sponsored by the Amer-

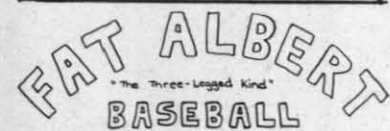
ican Field Service organization. Jean Romero shows Miss Kitowski a yerba mate from Uruguay (used to hold tea) while family members (left to right) Ed, Marti, and Vicki, look on. Miss Kitowski will attend Burroughs High School as a senior.



W. H. Hattabaugh

ons Center in 1960 as a Special Electronics Assistant to the Engineering Division of Public Works. Since then, he has served as Associate Head, Electromechanical Division, SHRIKE Project Manager, and is currently Head, Product Design Division in the Engineering Department.

Hattabaugh, his wife Doneta, and four children, Conny, Cary, Eric, and Tim, reside at 304 Midway Road, China Lake. His family will accompany him to Albuquerque.



FAT ALBERT BASEBALL
REARDON FIELD
SEPTEMBER 2



PROMOTIONAL OPPORTUNITIES

(Continued from Page 2)

Accounts Maintenance Clerk, GS-520-2, 3 or 4 or Clerk Typist GS-322-2 or 3, Code 174 (2 vacancies) — Examination, validation and verification of accounting documents and forms, posting of transactions to accounting records, correction of errors on postings, entries, computations, balances, etc. **Minimum Qualification Requirements:** GS-2: high school graduate; GS-3: high school graduate plus 1 year of general clerical experience; GS-4: 1 year of general clerical experience and 1 year of specialized experience.

Accounting Technician, GS-525-5, Code 1742 — The primary functions of the position are to provide controls of accounting transactions processed in the Branch for subsequent entry into the automated system and the NIF General Ledger and to review special procurement requests and changes thereto prior to procurement action. **Minimum Qualification Requirements:** 1 year of general experience and 2 years of specialized experience. **Advancement Potential:** GS-6.

File application for the above with Sue Prasolowicz, Bldg. 34, Rm. 206, Ext. 2577.
Multilith Operator, WP-44017-09, Code 7513 — Description of Duties: Runs off various single or multi-colored forms, charts, posters, etc., using either paper or metal plates. Performs all phases of operation such as lubricating presses, fastening plates to press, loading feeder, mixing ink, adjusting ink and water flows and adjusting paper feed and delivery. **Qualification Requirements:** Rating will be on the basis of the appropriate J-Element Standards in accordance with the CSC Handbook X-118C.

File applications for above with Beverly Selzer, Bldg. 34, Rm. 212, Ext. 2514.
Truck Driver (Heavy), WG 5205-07, JD 165-1, Code 25994 — Drives straight-line trucks over 22,000 pounds gross vehicle weight, loads and unloads material or directs laborers in same. Makes operational inspection of vehicle, checks presence and usability of assigned equipment, and cleans assigned vehicle. **Minimum Qualification Requirements:** Rating will be on the basis of existing J-Element standards in accordance with CSC X-118C. **Job Relevant Criteria:** Must have a California driver's license, pass a Practical Road Test, have a safe driving record and be able to obtain the appropriate Government operator's permit.

File applications for above with Naomi Campbell, Bldg. 34, Rm. 206, Ext. 3118.
Computer Programmer (2 vacancies) GS-7, 9 or 11, Code 1783 — This position is located in the Management Data Processing Division of Central Staff. Develops information systems, determines effectiveness of current systems, defines problems, initiates improvements relative to the Center's computer based on information systems. **Minimum Qualification Requirements:** GS-7: 3 years general experience and 1 year of specialized experience; GS-9: 3 years general experience, 1 year of specialized experience and 1 year of specific experience; GS-11: 3 years general experience, 1 year specialized experience and 2 years of specific experience as stated in X118. **Advancement Potential:** GS-12.

Clerk-Typist, GS-322-3 or 4, Code 1707 — This position is located in Internal Review Staff, Central Staff. Duties include typing reports, letters and audit analyses from handwritten drafts; aid in compiling data to support audit reports, verifies arithmetic



ANESTHETIST ARRIVES — Lt. Peter A. Foley of Blairtown, New Jersey recently arrived to take up the duties of nurse (anesthetist) at the Center Medical Department. Previously he served as anesthetist at the Great Lakes Naval Hospital and at the Naval Medical Center, Bethesda, Maryland, he was assigned duty under instruction. He attended Blackburn College, George Washington University, the Jersey City Medical Center, and the Navy School of Anesthesia. His naval service began in June 1966. Lt. Foley and his wife Shirley enjoy tennis very much. They have three sons: Drew, 7; Scott, 4; and Eric, 2.

Minimum Qualification Requirements: Bachelor's Degree plus 3 years of professional experience in appropriate subject matter fields.

File application for above with Sue Prasolowicz, Bldg. 34, Rm. 206, ext. 2577.

File applications for above with Mary Morrison, Bldg. 34, Rm. 210, Ph. 2022.

Electronic Engineer (General) GS-655-12, Code 4253 — This position is in the Electronic Systems Design Branch, Systems Design Division of the Missile Systems Department. As an Electronic Engineer the incumbent functions as a specialist in the field of missile flight controls. He is responsible for the design and development of electronic circuits, devices and systems involving (1) various electrical, hydraulic, or pneumatic actuators for driving missile control surfaces, (2) missile flight control systems including autopilots, and (3) stabilization systems for radar antennas or optical devices for guidance purposes. Additional duties include test and evaluation, and report and special writing; however the primary requirement is design work in solid state electron-

SHOWBOAT

MOVIE RATINGS FOR PARENTS AND YOUNG PEOPLE

The objective of the ratings is to inform parents about the suitability of movie content for viewing by their children.

- G** ALL AGES ADMITTED
General Audiences
- GP** ALL AGES ADMITTED
Parental Guidance Suggested
- R** RESTRICTED
Under 17 requires accompanying Parent or Adult Guardian
- X** NO ONE UNDER 17 ADMITTED
(Age limit may vary in certain areas)

FRIDAY AUGUST 28
"TO COMMIT A MURDER" (91 Min.)
Louis Jourdan, Senta Berger
7:30 P.M.

(Spy/Adventure) Down-and-out author is forced into the spy game to watch a husband and wife team suspected of trying to lure a scientist to China. Made in France for true Continental settings. (GP)
Short: "Swinging Brazil" (18 Min.)

SATURDAY AUGUST 29
—MATURE—
"NAMU, KILLER WHALE" (89 Min.)
Robert Lansing
1:00 P.M.
Shorts: "Pinto Pink" (7 Min.)
"Nature's Strongest Creatures" (16 Min.)

—EVENING—
"LATITUDE ZERO" (99 Min.)
Joseph Cotten, Cesar Romero
7:30 P.M.
(Science Fiction) Top scientific experts from throughout the world preserve and protect its good forces against evil ones from within a secret underwater city at Lat 0°. See the battle of the flying cubes. (G)
Shorts: "Ragtime Bear" (7 Min.)
"Get Wet" (10 Min.)

SUNDAY-MONDAY AUGUST 30-31
"PADDY" (87 Min.)
Desi Cave, Milo O'Shea, Peggy Cass
7:30 P.M.
(Comedy) Synoptic tale of an Irish "ALFIE" who's just become aware of life and love, and is on the make in Dublin. His spicily affairs and infectious good humor are as enticing as the beautiful Irish countryside. (GP)
Shorts: "Gonzales Tomatoes" (7 Min.)
"Fisherman's Fall" (17 Min.)

TUESDAY-WEDNESDAY SEPTEMBER 1-2
"MAROONED" (129 Min.)
Gregory Peck, Richard Crenna
7:30 P.M.
(Space Adventure) Well-made space epic about three astronauts stranded in space when the craft misfires during re-entry. The life-and-death struggle to save them is suspenseful realism for young and old. (G)

SHOWS CANCELLED THROUGH 2-11 SEPTEMBER.

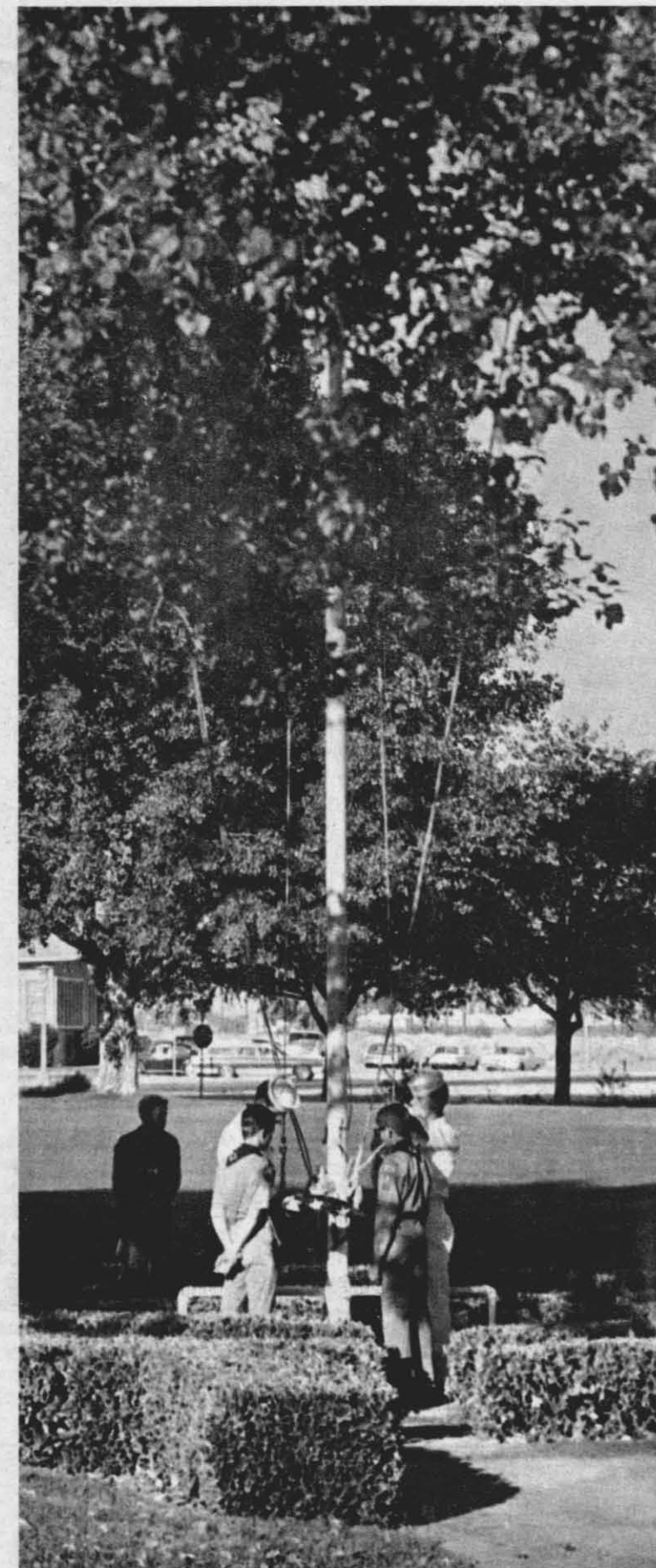
Theater Darkens

The Center Theater will be closed from Wednesday, September 2 through Friday, September 11 for renovation and repairs, according to Ray Schultz, theater manager. The theater will reopen for the matinee on Saturday, September 11.

From _____

TO _____

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SALUTE TO CONSTITUTION DAY — Boy Scouts from Troop 3 prepare to raise the flag in front of the Administration Building August 24 as a salute to Constitution Day, which will be celebrated September 17 by the United States. On that day, citizens of the United States will honor the ratification of the Constitution by the Congress of the United States, in 1787.

NWC Employee Honored

NWC Physicist Selected As Standards Panelist

Fred Nicodemus, a Physicist employed in the Optical Design Branch of the Infrared Systems Division, has been appointed as a member of the Evaluation Panel for the Heat Division of the Institute for Basic Standards, National Bureau of Standards. The Heat Division is responsible for the establishment, improvement and dissemination of units and standards for thermometry from the lowest

to the highest accessible temperatures. Other responsibilities of the division are to (1) carry out basic research in low temperature physics, equation of state of materials and statistical physics; (2) develop methods of techniques for calibration of device to measure temperature and pressure; (3) provide consultative and advisory services on scientific and technological problems of importance to Government Agencies and the public.

Nicodemus has been employed at the Naval Weapons Center since May, 1969 and has brought with him a wealth of knowledge of electro-optical and infrared technology. Prior to coming to the Naval Weapons Center, Nicodemus had served with Sylvania acting as a consultant on prob-

Inside...

All Hands Page 3

Fall Courses Pages 5-8

Sports Page 10

Theater Organ Page 11

Showboat Page 12



Capt. McCall Takes Helm At Naval Air Facility

Sees Assignment As Milestone

The dreams of a 17-year-old boy and a career of dedication moved farther toward fulfillment August 21, when Capt. Robert E. McCall assumed command of the Naval Air Facility.

Capt. McCall relieved departing skipper Capt. L. A. Dewing in change-of-command ceremonies at 10:40 a.m. in Hangar 3 after a personnel inspection by Capt. McCall and Capt. Dewing.

The event marked another milestone in Capt. McCall's career, which began in October, 1939, when he enlisted in the regular Navy just out of high school.

A standout athlete in football, basketball and track, Capt. McCall earned membership in the National Honor Society and graduated first in his class at Wellford, South Carolina. He was set on an appointment to the U.S. Naval Academy.

"I had always been pro-Navy," says Capt. McCall. "My uncle was a Navy man who sailed around the world with Admiral Dewey's Great White Fleet, and he was a big hero to me. I wanted a career in the Navy, too, and he wanted me to go to the Academy."

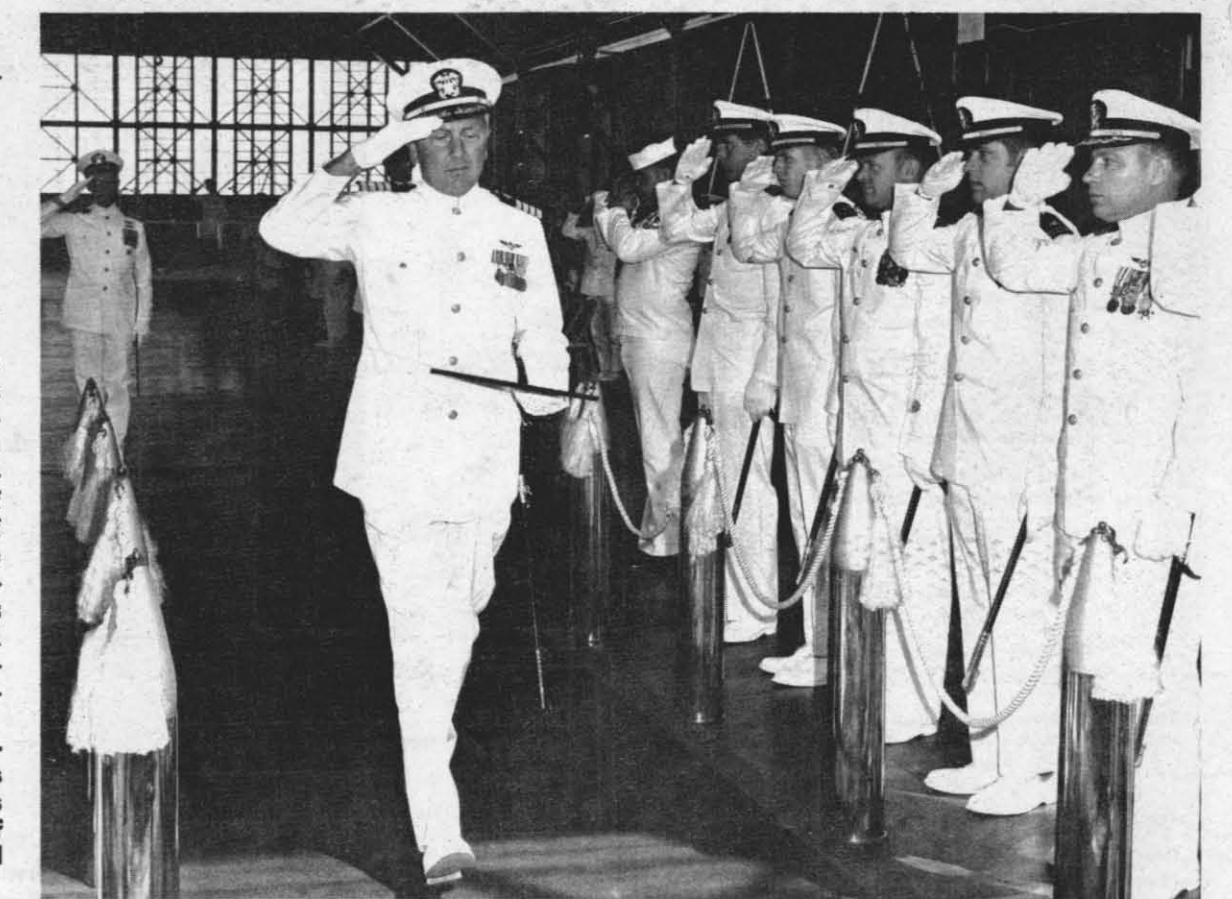
Unfortunately, the Congressional appointments from South Carolina had already been awarded. Impatient, Capt. McCall enlisted. He was determined to take the fleet competitive examination and earn his appointment to Annapolis. "I had a goal of making the Navy a career and I was willing



CHANGE OF COMMAND—Capt. R. E. McCall, left, and Capt. L. A. Dewing, right, exchange salutes during the Change of Command Ceremony held August 21 in Hangar 3 at NAF. Capt. Dewing was Commanding Officer of NAF for nearly two years, arriving at NWC in September, 1968. The new Commanding Officer recently completed a tour as Systems Integration Coordinator for Anti-Ship Missile Defense in the Office of the Deputy Chief of Naval Operations (Fleet Operations and Readiness). Capt. M. R. Etheridge, NWC Commander, witnesses the ceremony.

to do it any way I could," Capt. McCall says. After boot camp at Norfolk, Virginia, Capt. McCall received orders aboard the USS New York, a World War II battleship used to acquaint boots with life in the fleet. "Everything about the New

York was Navy. We slept in hammocks and lived out of sea bags. We respected all the petty officers and officers, and we were awed by the pomp and circumstance of the quarterdeck. It was hard work, but I look back on it with fond rec-



PIPED OVER THE SIDE — Following a Change of Command Ceremony in Hangar 3 at NAF, Capt. L. A. Dewing, who was relieved of his command at NAF by Capt. R. E. McCall, is piped over the side, ending a 28-year Naval Career which began in 1942 as a Naval Aviation Cadet. Capt. Dewing and his wife Shirley will remain in California, and live in Rancho Bernardo. —Photo by PH2 D. E. Hart



JOINT CHIEFS OF STAFF AWARD—Cdr. Theodore R. Henderson (c), NWC Deputy Director of Supply, recently received the Joint Service Commendation Medal for meritorious service while serving with National Emergency Airborne Command Post, Organization of the Joint Chiefs of Staff from June 1968 through May 1970. The award was presented by Capt. M. R. Etheridge (l), NWC Commander, during ceremonies held in the Commander's office and attended by Capt. E. M. Wieseke, NWC Director of Supply.

PROMOTIONAL OPPORTUNITIES

Employees are encouraged to apply for the positions listed below. Current applications (SF-17) or Standard Form 58 bringing your work history up-to-date should be forwarded as described below. The fact that positions are advertised here does not preclude the use of other means to fill these positions. Part of the ranking process of those rated as basically qualified will be a supervisory appraisal form that will be sent to the employees present and most recent previous supervisor. Selection shall be made without discrimination for any non-merit reason and without favoritism based on personal relationships or patronage.

The vacancies listed below are effective from August 28 to September 4, 1970.

Supervisory Electronic Engineer (Gen)-General Engineer-Physicist, GS-855-801-1310-14, Code 5043, 1 Vacancy - This position is that of Branch Head, Fuze Project Branch III, Code 5043, Development Division II, Fuze Department. The incumbent is responsible for the design of designated guided missile fuzes, including those for Sidewinder and Chaparral. Design is used in the broad sense of responsibility: He must be capable of performing each of the functions of evolution from concept to analysis, fabrication, test, evaluation, documentation, manufacture, support and final disposition. This is an interdisciplinary position for which candidates must have demonstrated notable design capability in the fields of electro-magnetic (r-f), solid-state electronics and electro-optical devices. Minimum Experience Requirements: See X-118, Job Relevant Criteria: Must be capable of: supervising about 12 high-level professionals; budgeting and managing about four substantial programs; the preparation of technical papers, reports and technical correspondence; and planning, coordinating and directing diverse actions.

File applications for the above with Carole Cadle, Bldg. 34, Rm. 204, Ext. 2925-2676. Voucher Examiner, GS-540-2, 3 4 or 5, Code 1765 - Duties as trainee, are to process vouchers for disbursements for travel and other types of claims (advances, refunds, witness claims, allowances, etc.); review and prepare answers to NRFC audits; and advise and assist claimants in completing claims. Typing ability required. Minimum Qualification Requirements: GS-3, 1 yr. of general experience obtained in the performance of clerical duties in any area of work. GS-4, 1 year of general experience plus 1 year of specialized experience. GS-5, 1 year of general experience plus 2 years of specialized. Advancement Potential: GS-

(Continued on Page 12)



SWEDISH AUTHOR—Dr. Jan Hansson, a member of the Research Institute of National Defense, in Stockholm, Sweden, Head of the Powder Kinetics Section, presents two of his manuscripts to Carolyn Kruse, Head, of the the NWC Library Division of TID. Dr. Hansson spent two and a half days at NWC attending technical briefings and renewing old friendships.

Center Housing Office Shifted To Public Works Department

In accordance with a Directive from the Chief of Naval Operations the Center Housing Office is now a division of the Public Works Department. The shift from the Community Relations Office was made this week and provides for a combination of responsibilities under the Housing Administrator. In addition to assignments and rent collection, Code 705, as it is now known, will have full responsibility for fiscal and maintenance matters. The Housing Office will remain at its present location for the time being; phone numbers and tenant contacts remain unchanged.

The new organization is designed to provide better controls, more efficiency, and improved customer response. The Community Relations Office will continue to act in an advisory capacity to Command on assignment policy. It is planned in the near future to reactivate internal waiting lists for Center residents. This decision will be based on the results of the Phase One Corona move and may be for a short period pending plans for Phase Two from Corona. The Phase One move terminates in October. The Phase Two move is programmed for October 1970 through January 1971.

CENTER LIBRARY LISTS NEW BOOKS

A complete list of new books is available in the library.

- Fiction
Habe—The Poisoned Stream.
McComas—Crimes and Misfortunes.
McMahon—Principles of American Nuclear Chemistry.
Momaday—House Made of Dawn.
McWhirter—Hushed Were the Hills.
Silverberg—Hawkbill Station.
Stuart—Shoot an Arrow to Stop the Wind.
Evanoff—Alfred Nobel.
Anderson—Satan's World.
Davis—Where the Dark Streets Go.
Dunnett—Pawn in Frank-

- Non-Fiction
Buckley—Governor Listeb.
Churchill—The Liberty Years, 1924-1950.
Braddon—The Siege.
Helmericks—Down the Wild River North.
Ickis—The Book of Games and Entertainment the World Over.
Johnson—How to Talk Back to Your Television Set.
Murphy—Fondue, Chafing Dish and Casserole Cookery.
Steiner—La Raza.
Block—Fingerprinting.
Boettinger—Moving Mountains.
Boyd—New Directions in Japanese Architecture.
Witcover—Resurrection of

HelpLine Inc. Crisis Intervention. CALL 446-5531. Includes a logo with a hand holding a telephone receiver.

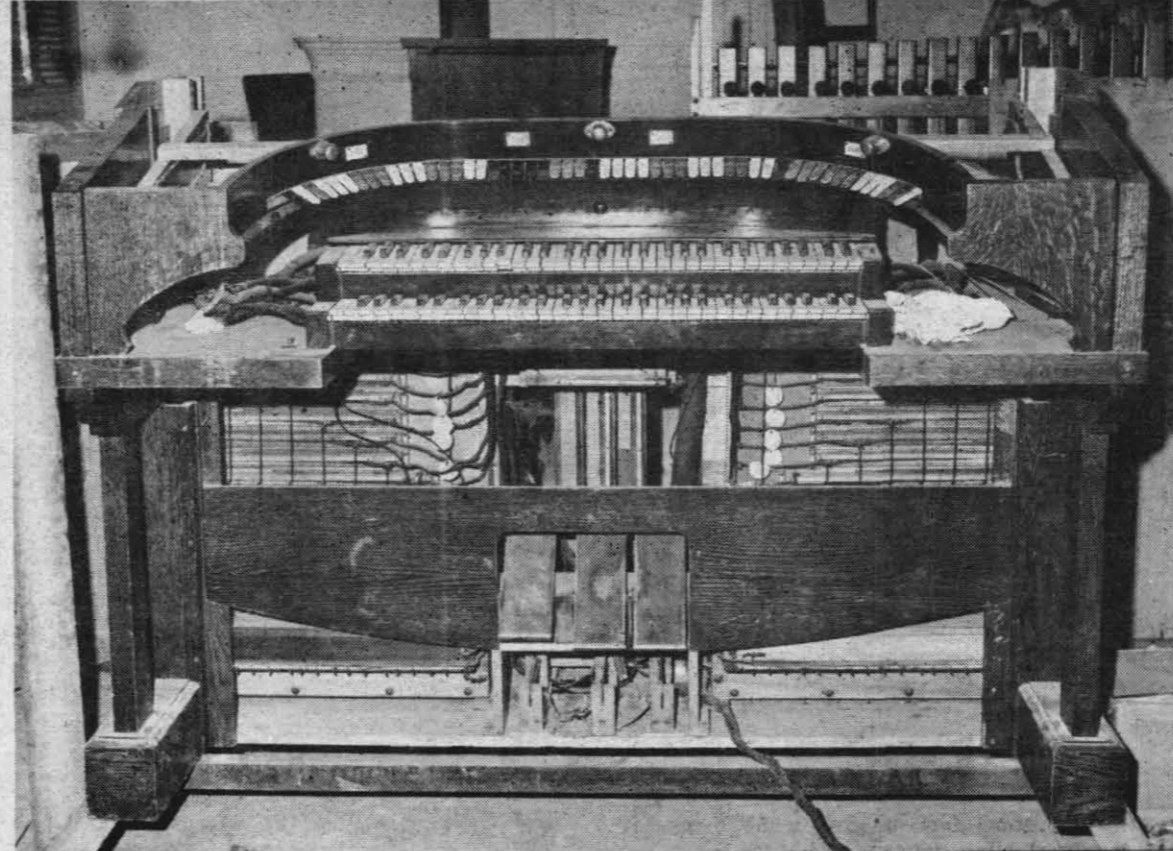
The Rocketeer Official Weekly Publication. U. S. Naval Weapons Center China Lake, California. Capt. M. R. Etheridge, USN NWC Commander. H. G. Wilson Technical Director. K. H. Robinson Head, Technical Information Department. William P. Valenteen, Jr. Editor. Jack C. Lindsey Staff Writer. Lucille Edwards Editorial Assistant. PHCS C. E. Bruce, PH2 Delmar E. Hart, PH2 Michael F. Krause, PHAN Ronald G. Mills. Staff Photographers. DEADLINES: News Stories Tuesday, 4:30 p.m. Photographs Tuesday, 11:30 a.m. The Rocketeer receives American Forces Press Service material. All are official U. S. Navy photos unless otherwise identified. Printed weekly with appropriated funds in compliance with NAVFORM P-35, revised July 1958. Office of Nimitz and Lauritsen. Phone 3354, 3355, 2347. DIVINE SERVICES: Protestant (All-Faith Chapel) Morning Worship-10:00 a.m. Sunday School-8:30 a.m., Chapel Annexes 1, 2, 4 (Dorms 5, 6, 8) located opposite Center Restaurant. Thursday-Sunday at 5:00 p.m. (Organ Prelude at 4:45 p.m.) Roman Catholic (All-Faith Chapel) Holy Mass-7, 8:30 and 11:15 a.m. Sunday. Daily Mass-11:30 a.m. In Blessed Sacrament Chapel. Saturday, 8:30 a.m. Confessions-7 to 8 p.m. Saturday, and 8 to 8:25 a.m. Sunday. NWC Jewish Services (East Wing All-Faith Chapel)-8 p.m. every first and third Friday. Sabbath School-10 a.m. to noon, every first and third Saturday. Unitarian Fellowship-(Chapel Annex 95, 95 King Ave.)-Sundays, 7:30 p.m.



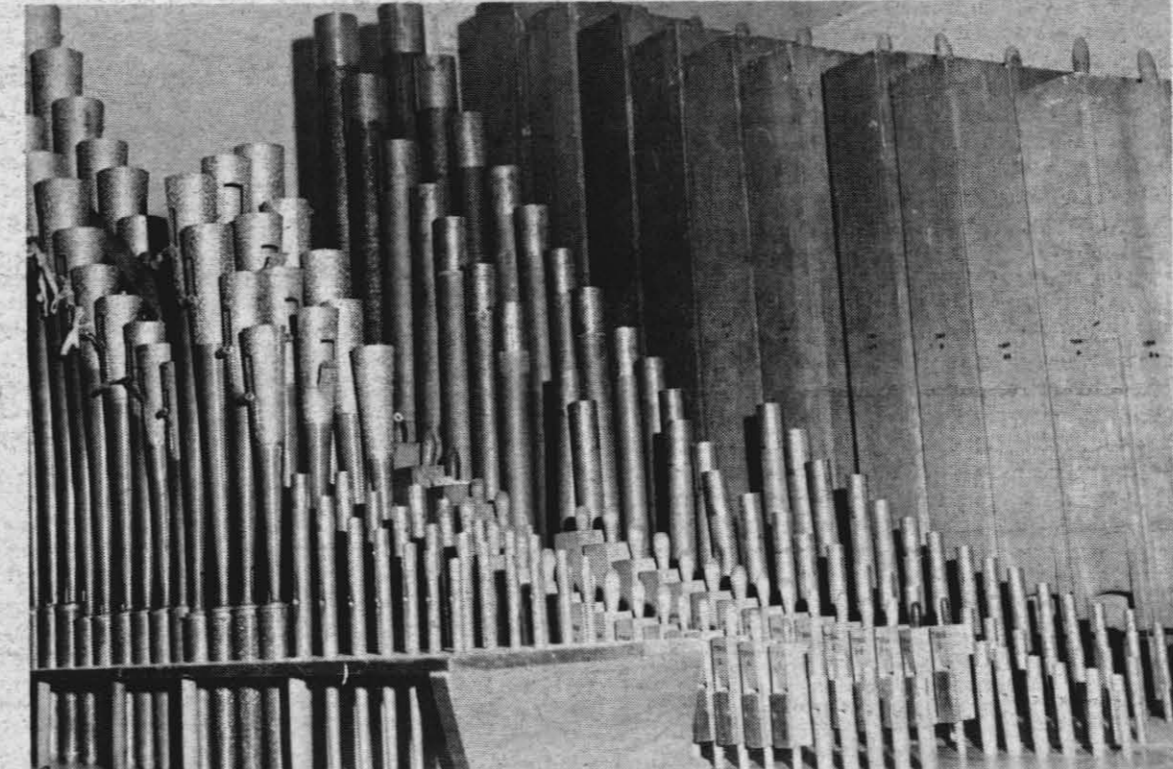
FAREWELL SOUVENIR—This highly-prized photograph of the bristlecone pines—oldest living things in the world—was among the mementos given to Capt. and Mrs. L. A. Dewing at the farewell reception held in their honor at the Officers' Club last week. Capt. Dewing, CO of NAF, received his retirement orders this morning during change of command ceremonies held at the Naval Air Facility. He was relieved by Capt. R. E. McCall. The print is the artistry of William P. Fettkether, TID photographer, and K. H. Robinson, Head of Technical Information Dept., who tinted the photograph. Capt. H. D. Parode, Asst. Technical Officer, was in charge of reception arrangements.

Vintage Theater Organ Refurbished For Sound

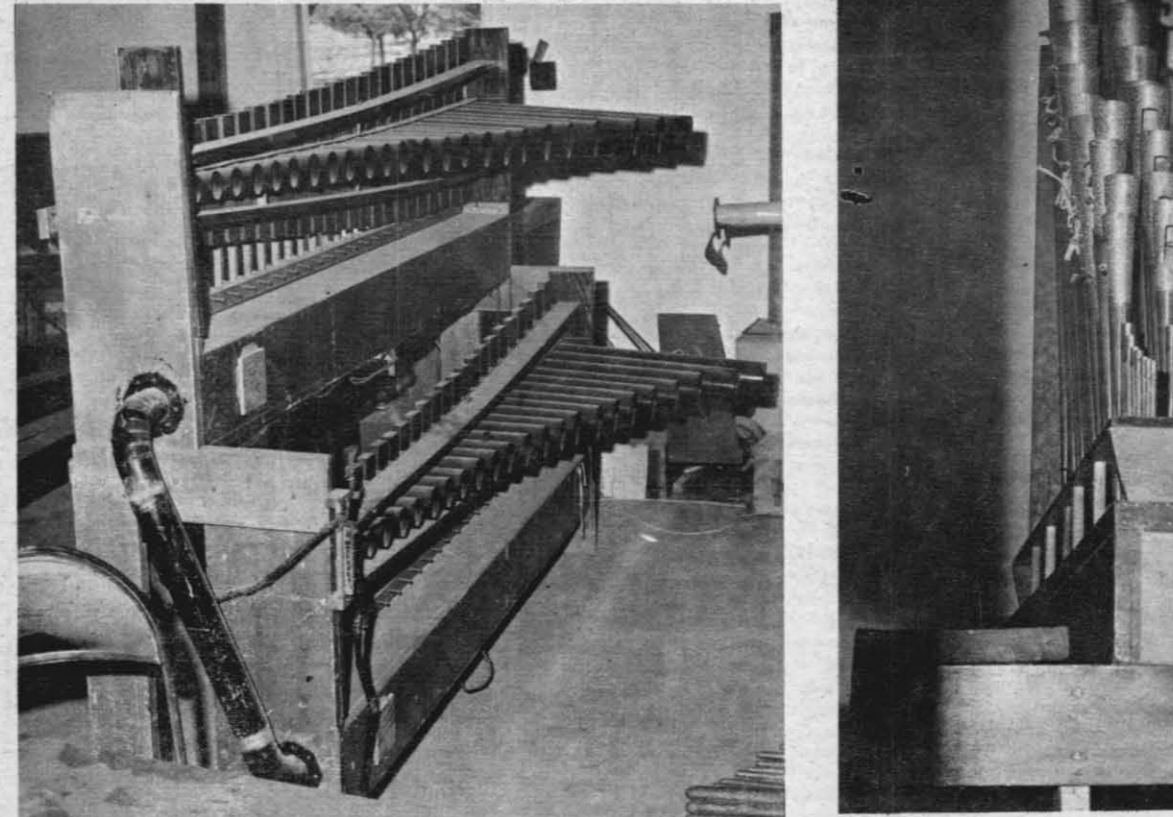
Instrument Formerly Owned By Los Angeles Theater



THE CONSOLE of the theater pipe organ contains two rows of keys which are double tone is heard, and a completely different tone is sounded by depressing the key all the way down.



THIS CONGLOMERATION of pipes and whistles represents only two ranks of the seven rank instrument. A rank is composed of two rows of pipes and whistles, each of which accurately resembles the instrument for which they are calibrated.



TWO MORE RANKS for the monstrous organ await repair and reconstruction. The organ, in a disassembled state, fills two full rooms of the old ROCKETEER building, and is scattered throughout the large main room.

The scene—a theater in the early 1900's. On the screen, the villain enters a house through the window. He steals silently through the home, intent on deeds of evil. Through the entire scene, patrons of the theater are "tuned in" to what is happening by the theater's pipe organ, which made it possible to understand the action, even without watching the movie. An organ such as this was recently purchased by the local branch of the American Theatre Organ Society from a Catholic Church in Woodland Hills, California. The church had purchased the organ in 1961, from the Home Theater, in Los Angeles, where it had been installed prior to 1920.

A theater pipe organ is a special type of pipe organ, different from a typical church organ, in that the voices of its pipes tend to be more imitative of orchestral instruments. Originally, theater organs were designed to take the place of a large pit orchestra. The local instrument was built by the Robert Morton Pipe Organ Company, of Van Nuys, California, a notable manufacturer during the early decades of this Century. The local organ is a seven-rank instrument — containing seven complete sets of pipes—and is wired so that these pipes can be played at different pitches (unified), which gives the effect of 38 sets of pipes. In addition to pipes, instruments such as drums, bells, organharps, xylophones, and sound effects such as bird whistles, thunder, rain, and others may be played on a theater pipe organ keyboard. This particular instrument is powered by a two-stage turbine "blower," which was manufactured by the Spencer Turbine Company, and generates five horsepower—more than twice the power needed to operate a church organ of similar rank. The China Lake club brought the organ from the church in Woodland Hills and moved it here. The move required 16 car trailer and truck loads. The current installation of the organ is taking place in the old Rocketeer building, northeast of Switzer Circle. The pipes will be enclosed in two chambers with shutters over the openings to control the volume of sound heard at the console. The Society hopes to use the building as a hall for concerts and recitals, and expect to be able to seat approximately 150 people. The club feels that there is a definite need in the community for this type of entertainment. Robert Leonard, a spokesman of the group, stated that persons who might wish to help the society rebuild the organ, are invited to attend their meetings and to participate. In explaining the goals of the club, he said "Many groups throughout the nation are buying these old organs and rebuilding them to where they can play again. Some go as far as to build their own theaters where they may recreate the entire silent movie, from flicker to fortissimo."

of the framing which will be used to enclose the pipes in the room. The local instrument contains seven ranks of pipes and completely fills two rooms, and part of a third.

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Photos By PH2 D. E. Hart



Andreason Could Be Key Factor-Sullivan

Dick Sullivan's China Lake squad will be among eight teams that will converge on Barstow's Sorenson Field this weekend for the 1970 Mojave Desert Interservice League Softball Tournament.

With three solid pitchers and 2½ weeks of practice, the NWCers are contenders for the league title, but they face a stern challenge from last year's champions from Barstow.

China Lake meets Norton AFB in its first game at 11 a.m. Friday, August 28, and Sullivan plans to start fastballer Bert Andreason.

"If we can stay in the winners' bracket, we'll have a chance to do some good in this

tournament. And if Bert is on, there aren't many teams who can beat him," said Sullivan.

The winner of the China Lake-Norton game is scheduled to play the winner of the George AFB-29 Palms game at 9 a.m. Saturday, August 29, in the second round of the double elimination tournament.

The loser of the China Lake-Norton game will face the George-29 Palms loser at 9 p.m. Friday.

Area fans are invited to attend the tournament, which will be held on Sorenson Field, adjacent to the main gate at Nebo.

The tournament concludes Sunday, August 30.



GIRLS ALL STAR SOFTBALL TEAM—The Girls All Star Team that will represent NWC in the Southern California Municipal Athletic Federation Tournament at Olive Park in Burbank, August 23 through 25, pose for a team photo. The girls are, front row: (left to right) Nina Johnson, Lisa Brown, Robin Harbin, Lori Noland, Linda Shreve, and Diane Wittmer. Back row, left to right: Levi Johnson, manager, Cindy Barber, Pam Drake, Debbie Smith, Myrna Martin, Debbie Simpson, and Judy Mendonca, coach. Not present for the photograph: Denise Mendonca, Karyl Williams, Laurie Adicoff and Renda Totah.

—Photo by PHAN R. G. Mills

NWC Chukar Population Falls Short Of Last Year's Tally



OBJECT OF SPORTSMEN—Wily chukars (Indian red-legged partridges) are ready to scoot into rocks to elude hunters. Announcement of NWC hunting dates is expected by mid-month.

—Photo by R. F. Barling

Inquiries about this fall's hunting prospects are being received daily as a result of a recent nationwide magazine article on China Lake's renowned chukar partridge population. Sports Afield magazine, in its July issue, carried an article titled "Chukar Bonanza at China Lake" that has triggered a rash of "when," "where" and "how" questions.

Natural Resource Management Board Chairman LCDr. W. J. Schell said this week brood counts are far below last year's big hatch. Counts made late in July by California Department of Fish and Game tallied less than half a juvenile bird per adult on NWC's north ranges. Mountain quail counts were somewhat better with 2.2 juveniles observed for each adult bird. Lack of rainfall with resulting poor food conditions is blamed by wildlife experts for the scarcity of young birds.

In the nearby Rand and El Paso Mountains and Walker Pass the ratio was only slightly better with a count of 0.6 young for each adult chukar. Mountain quail in these areas ran about 3.2 young per adult; valley and Gambel's quail averaged 1.2 juveniles in last year's tally.

The Burros Booster Club will hold its annual pancake breakfast Saturday, September 12, from 6 a.m. to 12 Noon at the Burroughs High School Multi-Purpose Room. The dollar donation also includes a chance to win a Honda Trail 90, donated by Ridgecrest Honda.

All proceeds from the breakfast will be used for equipment needed in the Ath-

A little more than 400 chukars were taken this year from the Mojave "B" area for exchange with the State of Texas for wild turkeys. About 250 quail were also trapped for shipment to Pakistan for trade with that country for additional seesee partridges to be leased in California uplands.

The organization will begin its annual membership drive at that time and memberships will be available at the breakfast or from officers and directors of the Club.

Booster Pancake Breakfast Slated for September 12

China Lake Tennis Champ Bustard Continues Winning Ways In Spain

Buck Bustard is alive and well in Spain—playing tennis, of course.

The former president of the China Lake Tennis Club and Center champion recently finished 10th in the USAF World Tennis Championships in San Antonio, Tex.

Still recovering from leg surgery, the determined Bustard proceeded through a series of elimination matches to finish second in European Championships in singles and doubles.

He was runner-up in the Garmisch USAFE Invitational Championships, where he lost to three-time European champion Paul Hansen, but was chosen for the European world tournament team along with five other players from Turkey, Italy, Germany, and the United Kingdom.

The only Navy player at San Antonio, Bustard defeated Hansen in the first round of the tournament and advanced to

the quarterfinals before losing to the eventual winner.

Bustard returned to his regular duties at NAS Rota, Spain, with an armload of seven trophies, two medals, an awards blazer and an awards jacket.

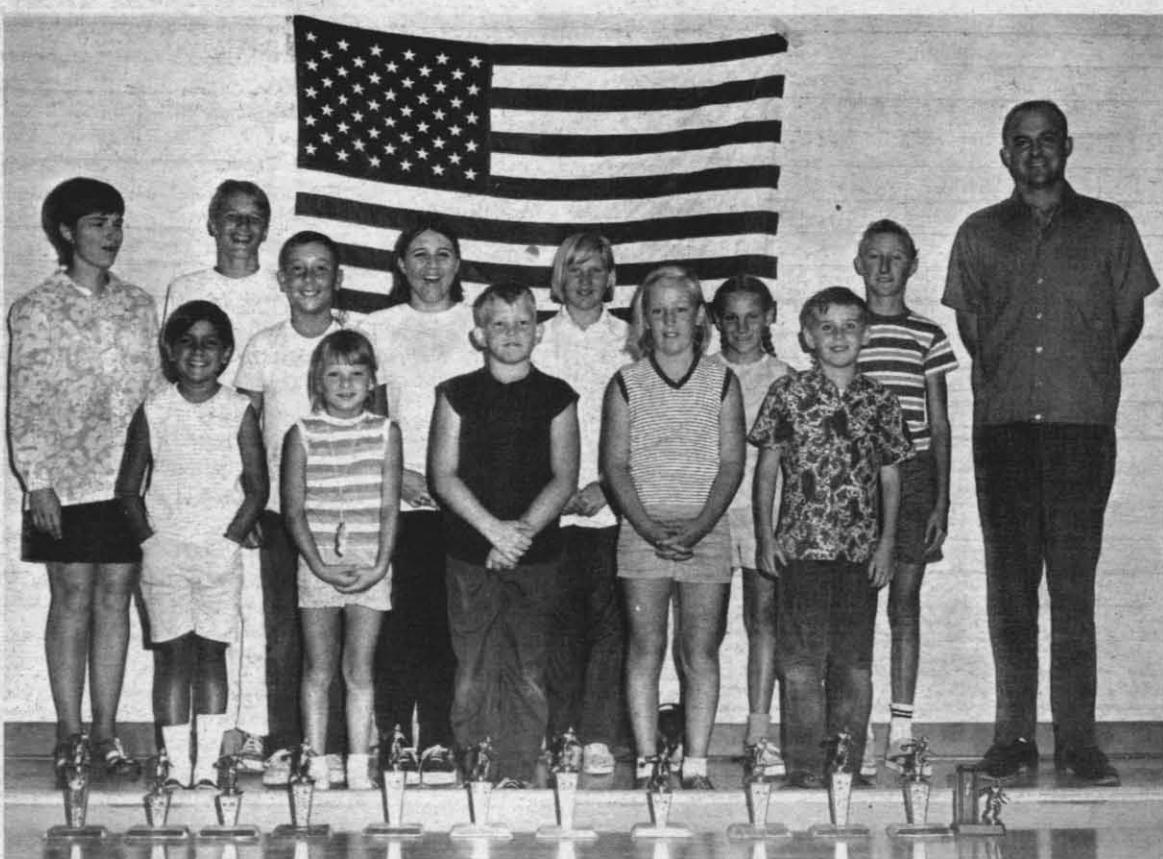
After two or three matches a day for weeks, Bustard was ready for a rest.

"Tournament play is a great experience, but it's so much harder than regular work," he said.

Entries Now Open For Annual CLGC Championships

Entries are now open for the China Lake Golf Club Championships scheduled to begin September 12.

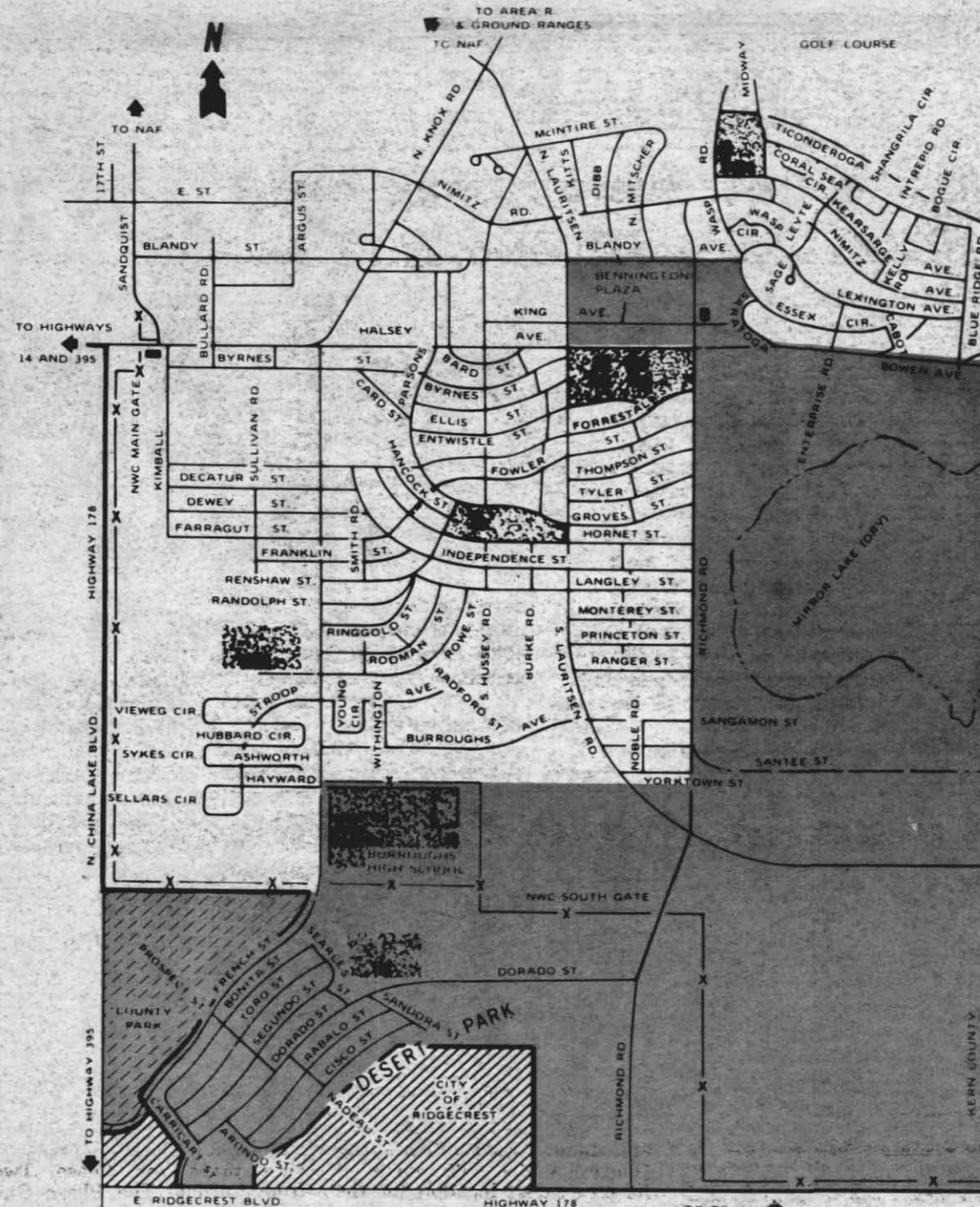
Tournament play will start with 18-hole medal-play qualifying rounds on Saturday and Sunday, September 12-13, followed by the match play finals September 19-20.



WINNERS OF THE SUMMER Bowling Tournament display their trophies at the end of the three-month league. Dean Ray (far right) manager of the China Lake Bowl, instructed 70 youngsters in the Youth Center program. His wife Sherry (far left) served at league secretary.

—Photo by PH2 D. E. Hart

Annexation Area Under Discussion



ALL HANDS MEETING — The shaded area on this map will be the subject of a discussion at an All Hands Meeting called by Capt. M. R. Etheridge, NWC Commander, for Tuesday, September 1, beginning at 1 p.m. in the Center Theater. Ridgecrest, which has already annexed the cross-hatched areas along East Ridgecrest Blvd. for the Apollo Development, has proposed annexation of the shaded areas.

Microwave Ovens - Help or Hazard?

Ovens that use microwave energy have proved to be very effective for quick heating of frozen foods, particularly sandwiches, pizza and similar convenience foods. In larger sizes, these ovens are used in homes and restaurants for rapid cooking of roasts and other foods.

Following is some advice on the care and operation of these ovens submitted by the NWC Safety Department, in conjunction with the NWC Medical Department:

As is common with so many new devices, new hazards are present and they must be controlled if these ovens are to be used without harm to the operators.

According to the NWC Safety Department, properly manufactured and installed, the microwave energy is completely confined within the oven by a tightly fitted door. Safety interlocks will cut off the electrical power when the door is opened.

Microwave radiation is not the same as, and should not be confused with X-rays or Gamma radiation. Microwaves are not penetrating and cause heating instead of ionization when they are absorbed by living cells. They are most likely to damage the eyes, causing corneal cataracts and other injuries to the lens of the eye.

Detection and Measurement
Microwave radiation can not be detected by human senses. Its measurement requires special electronic equipment and skills. It can not be detected by film badges or the meters used for measurement of ionizing radiation. The generally accepted maximum safe level for continuous exposure is ten (10) milliwatts per square centimeter.

Any malfunction of the oven may result in radiation exposure of persons using the oven or who may be close by.

Damaged or poorly fitting doors or door gaskets that do not close tightly will leak radiation.

Blocking or "jumping" the safety switch allows the power to remain on when the door is opened and all persons in the general area will be exposed to the radiation.

Safe Operating Rules
To assure safe operation the following precautions should be used:

- Stay at least an arms length (30 inches) from the oven when it is in operation.
- Switch off the electrical power before opening the door.
- Do not use the viewing port in the door to watch the food being cooked.
- Check frequently to ensure that the oven is in good mechanical condition.
- Do not attempt to make repairs or adjustments unless fully competent and knowledgeable of these hazards.

If not operating properly or if damaged, have the oven checked for radiation leakage by manufacturer, vendor or other competent source.

'Sooners' Return To Club Chaparral

The Club Chaparral will present "Harold Cox and the Sooners," in a return engagement Friday, August 28, from 9 p.m. until 1:30 a.m. The popular group has just finished an engagement at Carson City, Nevada. All members and guests are cordially invited to attend.

At flight training, Capt. McCall learned to fly the F-4U Corsair and was assigned to Composite Squadron 33, one of the first units to perform night carried work.

"Like every other flier just out of flight training, I considered myself the hottest young fighter pilot in the fleet. But it wasn't long before I found how little I knew."

By 1951 Capt. McCall had become jet qualified and was flying F-2 Banshees and F-4D

Career of New NAF C.O. Studded With Memories

(Continued from Page 1)

membrances."

From a seaman apprentice making \$21 a month aboard the New York, Capt. McCall served aboard the USS Vincennes, the USS Croninshield and the USS Noa (the first destroyer to carry Naval aircraft), and was advanced to Boatswainmate Third Class before he secured his appointment to Annapolis.

As a plebe, Capt. McCall renewed his athletic interests. He tried out for football, but broke his leg. Eventually, he rowed varsity crew and participated in intramurals, but like most of his fellow midshipmen, his mind was not on athletics.

The United States had entered World War II and Capt. McCall was among the hundreds of midshipmen eager to do their part.

"When I was on the Croninshield, we were a part of the Atlantic neutrality patrol that kept an eye on German ships and U-boats off our coast.

"In 1940 the Croninshield was one of 50 ships given to England, so a lot of my buddies were transferred to ships like the USS Arizona or the USS New Mexico in the Pacific.

"I lost 15 or 20 good friends at Pearl Harbor, and almost all the formerly enlisted midshipmen experienced the same thing. For us the war was personal."

Capt. McCall received his commission from the Academy in August, 1945, and finished the war aboard YMS 231, a minesweeper off Okinawa and in the Sea of Japan. Later, he served aboard another minesweeper, the USS Cowie, until it was decommissioned in 1946.

In October, 1947, Capt. McCall was selected for flight school, fulfilling another of his goals.

"I always dreamed of being an aviator. I had worked in aviation on the Vincennes and the Noa. Both ships had planes on board and my job was to push the planes away from the side of the ship with a long bamboo pole. It was my first experience with aircraft, and I thoroughly enjoyed it."

At flight training, Capt. McCall learned to fly the F-4U Corsair and was assigned to Composite Squadron 33, one of the first units to perform night carried work.

In his final assignment before NAF, Capt. McCall served in the office of the Deputy Chief of Naval Operations for Fleet Operations and Readiness aiding in the development of countermeasures to Soviet missiles.

Now the stationery of former BM3 McCall reads Capt. McCall, Commanding Officer, Naval Air Facility, but his feelings for the Navy are still the same.

Phantoms. While serving as Operations Officer of Fighter Squadron 82, he was selected for Navy Test Pilot School and then assigned to the Armament Test and Weapons Systems Test Divisions at NATC Patuxent River, Maryland.

At Patuxent River he became involved in a number of projects, most notable being an investigation into the cause of frequent high altitude flameouts after aircraft had fired guns or rockets. Tests eventually revealed that the flameouts were caused by a rapid rise in the inlet temperature of the engine.

As a result of his work on the project, Capt. McCall became one of the first Navy pilots to wear a full pressure suit. In all, he experienced 120 flameouts a above 55,000 feet, many of them 60 miles or more from Patuxent River over the Atlantic Ocean.

While at Patuxent River, Capt. McCall became one of the first 100 pilots to fly 1000 miles per hour. He broke through the 1000-mph barrier in the same F-8UP which Maj. John Glenn used to set a cross country supersonic flight record.

Shortly afterward, Capt. McCall received one of the few major disappointments of his Naval career—he was not selected for the astronaut program.

"The height cutoff for the first seven astronauts was 5-10," explains Capt. McCall. "I'm 6-4, so I wasn't even considered. It's one thing I really would like to have done. Someday they may have space ships to accommodate pilots like me."

From Patuxent River, Capt. McCall went to Air Wing 3 as Landing Signal Officer and then in the same capacity with Air Wing 10.

His next duty was as Executive Officer of Fighter Squadron 62 before being assigned to the USS Independence as Air Operations Officer.

Then came a tour in the office of the Deputy Chief of Naval Operations for Research and Development, where he helped develop ordnance and weapons systems for all types of air and surface craft.

In his final assignment before NAF, Capt. McCall served in the office of the Deputy Chief of Naval Operations for Fleet Operations and Readiness aiding in the development of countermeasures to Soviet missiles.

Now the stationery of former BM3 McCall reads Capt. McCall, Commanding Officer, Naval Air Facility, but his feelings for the Navy are still the same.



CENTER RECEIVES NEW VEHICLES—The Public Works Transportation Division — Code 707 — received 11 new vehicles recently to replace older equipment in the Center's fleet. The types and number received are shown above, left to right: a water spray truck; a bus; two of five new stake trucks; a six man pick-up; and one of three new passenger vehicles.

—Photo by PH2 M. F. Krause

Code 55 Engineer Larry E. Prince Receives MSEE

Larry E. Prince, an electronic engineer in the Product Design Division of the Engineering Department, was awarded a Master of Science in Electrical Engineering by the University of Washington in Seattle on August 22. His field of specialization was electron-



Larry E. Prince

ic circuit design, systems design, and network analysis.

Prince began his studies at the University of Washington in the fall of 1968 following receipt of a WEPCOSE Award. At the termination of that award in June 1969 he was granted an NWC Fellowship for the 1969 Summer Term to continue and complete his planned program of studies. The thesis required for the degree was completed after his return to China Lake in September 1969 and was entitled "The R-L Mutator and a Reactance Amplifier Application."

Prince has been employed at China Lake since shortly after his graduation from Chico State College with a Bachelor of Science in Electrical Engineering in 1961. He and his wife Sandra and their three sons, Stephen, Michael, and Phillip and daughter Melinda reside at 110-A Wasp Road, China Lake.

CFC Meeting Sets Combined 1971 Fund Drive Goals Want 100% Participation

Plans and objectives for the sixth annual Combined Federal Campaign were firming up this week when the NWC CFC Committee held a strategy meeting. Jesse Bell, Chairman of the 1971 drive, stated that the goal of the Committee is 100 per cent participation by every employee of the Center.

The annual fund-raising effort for all Federal employees of Indian Wells Valley will commence on October 12. As in the past, this year's drive is the biggest all-out campaign to raise money for charitable organizations conducted by Center employees.

Participating in the campaign are the United Fund organizations, International Service Agencies and National Health Agencies.

Assisting Bell with the campaign will be Frank MacDonald, publicity chairman; and Gordon Peacock, business manager. Other committee members are representatives of Indian Wells Valley Metal Trades Council and of the local post office, as well as NWC volunteers.

BC Desert Campus To Conduct Survey On Local Housing

Residents of the area are asked to participate in a housing survey being conducted by the Desert Campus of Bakersfield College.

"The purpose of the housing survey," noted Raymond J. Marsh, assistant dean of the college, "is to give students outside of the area an idea of housing availability in Ridgecrest and China Lake."

Individuals who have rentals available or would be interested in taking in students, are asked to call the college at 375-1548.



CFC COMMITTEE — Members of the NWC Combined Federal Campaign committee recently held a strategy meeting to firm up plans for the 1971 fund drive. Members are, front row, left to right: Tilly Chamness; Dorothy Wilson, IWV Post Office; Marcell

Boles; Chairman Jesse Bell; Milton Ritchie, United Fund; and Jim McGlothlin. Standing, left to right: Frank MacDonald; A. L. Barkhurst, IWV Metal Trades Council; Al Raygor; Gordon Peacock, and John Seguine. —Photo by PH2 D. E. Hart

Day Schedules Listed For Center's Students

Opening day of school in China Lake School District is Tuesday, September 8. All classes will follow the regular day schedules as shown in this article except for Murray School 7th and 8th grades, which will be operating on a minimum day schedule. Parents are requested to check the information listed for each grade level in this article for details. School cafeterias will be open for service on Tuesday for all students except the 7th and 8th graders. Information on milk and meal prices will be in a subsequent news article.

There will be no school on Wednesday, September 9. This is a State holiday commemorating California's admission to the Union. Classes will be in regular session on Thursday, September 10.

Enriched Kindergarten, Kindergarten, Junior Primary Classes—Parents will be contacted by postal card or phone call prior to the opening day of school and will be given information on where and what time their children are to report on the opening day of school.

FIRST GRADE
Local school day: 8:30 a.m. to 1:45 p.m. Lunch hour: 11:30 a.m. to 12:15 p.m.

Richmond School Zone—Richmond School first grade attendance zone includes all houses north of Halsey and Bowen Avenues.

Groves School Zone—Groves School 1st grade attendance zone includes all houses within the area surrounded by a line drawn from the corner of Knox Road, going east on Halsey to Richmond Road, south on Richmond Road to Ranger, west on Ranger to Lauritsen, north on Lauritsen to Langley, west on Langley to Rowe (including houses on both sides of Langley), southwest on Rowe to Knox (including houses on both sides of Rowe), and north on Knox Road to Halsey.

Vieweg School—Vieweg School 1st grade attendance zone includes all houses in the Site B Capehart area and pupils living in the trailer area.

Pierce School—Pierce School 1st grade attendance zone includes all pupils living in the Desert Park housing area.

SECOND GRADE
Local school day: 8:30 a.m. to 1:45 p.m. Lunch hour: 11:30 a.m. to 12:15 p.m.

Richmond School—Richmond School 2nd grade attendance zone includes all houses north of Halsey and Bowen Avenues.

Groves School—Groves School 2nd grade attendance zone is the same as the Groves School 1st grade attendance zone.

Vieweg School—Vieweg School 2nd grade attendance zone includes the trailers and all Site B Capeharts to the west of South Knox Road.

Pierce School—Pierce School 2nd grade attendance zone includes all houses in the Desert Park area and all Site B Capehart houses to the east of Knox Road. Pupils from Site B Capeharts who are assigned to Pierce School will be picked up at the corner of Knox Road and Rowe by Bus 21 at 8:10 a.m. They will be returned to the same spot by Bus 21 which is scheduled to leave Pierce School at 1:45 p.m.

THIRD GRADE
Local school day: 8:30 a.m. to 1:45 p.m. Lunch hour: 11:30 a.m. to 12:15 p.m.

Richmond School—Richmond School 3rd grade attendance zone includes all houses to the

north of Halsey and Bowen Avenues and the houses enclosed by a line drawn from the corner of Groves and Noble Road, going north on Noble to Fowler, east on Fowler to Richmond Road, south on Richmond Road to Ranger, west on Ranger to Lauritsen, north on Lauritsen to Hornet, and east on Hornet to Richmond Road. Bus 14 will make stops at Princeton and Noble, Independence and Noble, Tyler and Noble at approximately 8:15 a.m. to pick up the 3rd grade pupils assigned to Richmond School from the old duplex and Hawthorne areas. Third graders will be returned to the same bus stops by Bus 12 which will leave Richmond School at 1:45 p.m.

Groves School—Groves School 3rd grade attendance zone includes all houses enclosed by a line drawn from the corner of Knox Road and Halsey, going east on Halsey to Richmond Road, south on Richmond Road to Fowler, west on Fowler to Noble, south on Noble to Groves Street, west on Groves to Lauritsen (including houses on both sides of Groves), south on Lauritsen to Langley, west on Langley to Rowe (including houses on both sides of Langley), southwest on Rowe to Knox Road (including houses on both sides of Rowe), and north on Knox Road to Halsey. Trailers are also included in the Groves 3rd grade zone.

Vieweg School—Vieweg School 3rd grade attendance zone includes all houses in Site B Capehart area.

Pierce School—Pierce School 3rd grade attendance zone includes all houses in the Desert Park area.

FOURTH GRADE
Local school day: 8:30 a.m. to 2:45 p.m. Lunch hour: 11:15 a.m. to 12 noon.

Richmond School—Richmond School 4th grade attendance zone includes all houses to the north of Halsey and Bowen Avenues and all houses enclosed in a line drawn from the corner of Halsey and Richmond, south on Richmond Road to Langley, west on Langley to Lauritsen (including houses on both sides of Langley), and north on Lauritsen to Halsey. Bus 14 will make stops at Independence and Noble, Tyler and Noble, and Fowler and Noble at approximately 8:15 a.m. to pick up pupils from

(Continued on Page 9)

Elementary Schools List Fall Classes Schedule

(Continued from Page 4)

this area assigned to Richmond School. Fourth graders will be returned to Fowler and Noble and Independence and Noble by Bus 12 which will leave Richmond School at 2:45 p.m.

Groves School—Groves School 4th graders attendance zone includes all houses enclosed by a line drawn from the corner of Knox and Halsey, going east on Halsey to Lauritsen, south on Lauritsen to Monterey, east on Monterey to Richmond Road (including houses on both sides of Monterey), south on Richmond Road to Ranger, west on Ranger to Lauritsen, north on Lauritsen to Langley, west on Langley to Rowe, southwest on Rowe to Knox Road (including houses on both sides of Langley and Rowe), and north on Knox Road to Halsey.

Vieweg School—Vieweg School 4th grade attendance zone includes all houses in Site B Capehart area and the trailers.

Pierce School—Pierce School 4th grade attendance zone includes all houses in the Desert Park housing area.

FIFTH GRADE
Local school day: 8:30 a.m. to 2:45 p.m. Lunch hour: 11:15 a.m. to 12 noon.

Richmond School—Richmond School 5th grade attendance zone includes all houses to the north of Halsey and Bowen Avenues.

Groves School—Groves School 5th grade attendance zone includes all houses enclosed by a line drawn from the corner of Knox Road and Halsey, going east on Halsey to Richmond Road, south on Richmond Road to Ranger, west on Ranger to Lauritsen, north on Lauritsen to Langley, west on Langley to Rowe (including houses on both sides of Langley), southwest on Rowe to Radford, northwest on Radford to Ringgold, west on Ringgold to Knox Road, and north on Knox Road to Halsey.

Vieweg School—Vieweg School 5th grade attendance zone includes the houses enclosed by a line drawn from the corner of Knox Road and Ringgold, going east on Ringgold to Radford, southeast on Radford to Rowe, west on Rowe to Knox (including houses on both sides of Rowe), and north on Knox Road to Ringgold. Also in the Vieweg School 5th grade zone are the trailers, all houses in Site B Capehart area, and all houses in the Desert Park housing area. Fifth grade pupils living in Desert Park will be picked up by Bus 21 at the corners of Prospect and Toro and Dorado and Sandora at approximately 7:55 a.m. They will be returned to the two bus stops by Bus 21 which will leave Vieweg School at 2:50 p.m.

SIXTH GRADE
Local school day: 8 a.m. to 2:30 p.m. Lunch hour: 11:00 a.m. to 11:45 a.m.

All sixth grade pupils will attend Murray School. The 6th grade classrooms are located in the southwest wing of Murray School. Class lists showing student assignments to classes will be posted on Hallway and outside door entrances to classrooms. Bus service will be provided for 6th graders living in Site B Capeharts and Desert Park housing areas. Buses 12

and 14 will make pick-ups at 7:30 a.m. at the corners of Prospect and Toro and Dorado and Sandora. Bus 12 will return at 7:45 a.m. for additional pick-ups at the same locations. Bus 21 will make pick-ups at the corners of Knox and Burroughs, Sykes and Stroop, and Rowe and Knox at approximately 7:40 a.m. Sixth graders will be returned to the same locations by buses 14 and 21 which are scheduled to leave Murray School at 2:30 p.m.

SEVENTH & EIGHTH GRADES
Local school day: 8:00 a.m. to 2:55 p.m. Lunch hour: variable.

Special Note: On Tuesday, September 8, school will be in session for 7th and 8th graders from 8 a.m. to 12 noon. No lunch will be served to 7th and 8th graders on this day only.

Seventh and eighth grade students are asked to report to the Kelly Field bleachers for an assembly at 8 a.m. Directions for the rest of the day will be given to them at that time.

Bus service will be provided for 7th and 8th grade pupils living in Site B Capeharts and Desert Park housing areas. Morning pick-up will be the same as shown for 6th graders.

Bus 14 will leave Murray School at 3 p.m. to return pupils to the Desert Park area. Bus 21 will leave Murray School at 3 p.m. to return pupils to the Site B Capehart area. On Tuesday a special schedule will be in operation to return 7th and 8th graders to their home areas at 12 noon.

Fall Registration At Desert Campus To Begin Tuesday

Registration for Fall semester classes at the Desert Campus of Bakersfield College will be held on Tuesday, September 1 and Thursday, September 3 from 5 to 8 p.m. in the Burroughs High School Multi-Use Room, announced Dr. Richard A. Jones, dean of the college.

Day registration will be held on Friday, September 4, from 9:30 a.m. to 3:30 p.m.

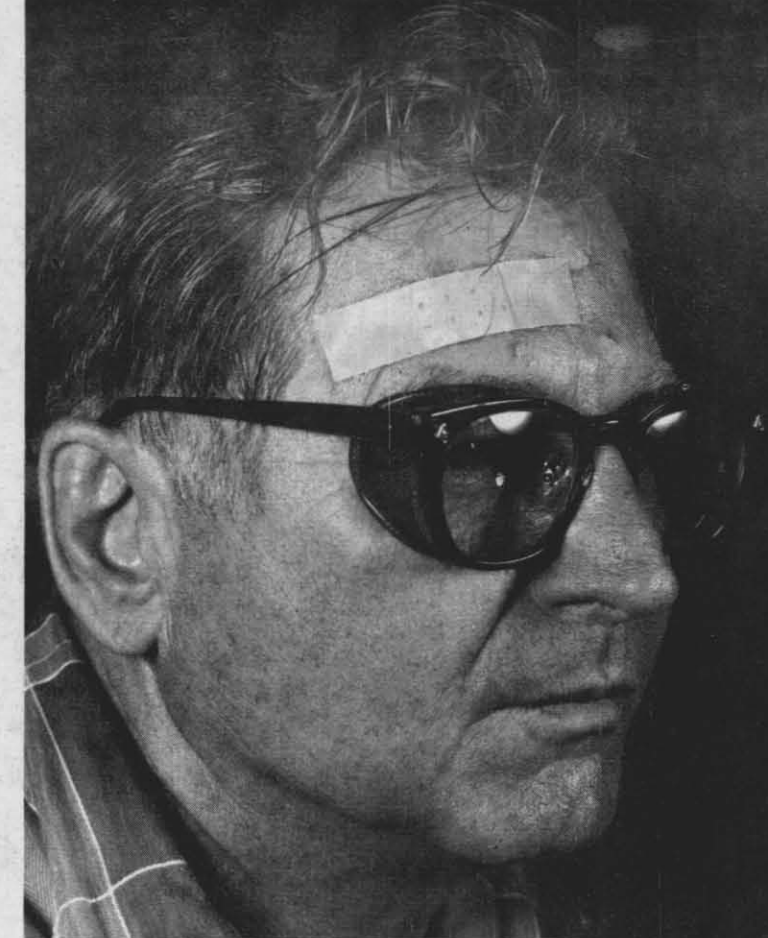
Those registering for classes during the three days of open registration will have the opportunity to discuss their programs of study with college officials.

Students carrying six or more units and working toward a high school diploma or a college degree may schedule appointments with a college counselor through August 28 from 8 a.m. to 5 p.m. by calling the college office at 375-1548.

The college bookstore will open on September 4 from 10 a.m. to 3:30 p.m. at 737 N. China Lake Boulevard, immediately south of the Valley Independent. It will remain open continuously beginning September 8 through 24, Monday through Thursday, from 4:30 to 7:30 p.m.

Late registration at the college for classes not closed will take place from September 8 through 18.

Fall semester classes will officially begin at the college on September 8.



EYESIGHT SAVED—William Hobaugh, an employee of the Engineering Department, was cutting threads in holes drilled in a machined part recently when the steel tap shattered. One large fragment of the tap struck Bill in the face. As the photo shows, most of the impact was taken by his safety eyewear. The right lens, though deeply pitted, did not break. Following minor first aid, Bill was back on the job, grateful for the Center's Sight Conservation Program that provides protective eyewear.

Nicodemus Selected . . .

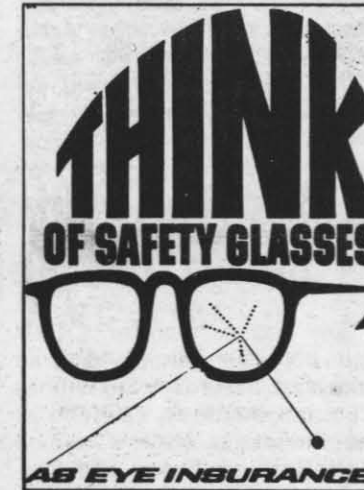
(Continued from Page 1)
lems involving missile detection by passive methods, primarily by electro-optical (especially infrared) techniques, and also by over-the-horizon radar, electro-acoustic and other means.

Nicodemus is a member of the Optical Society of America,



Fred Nicodemus

the OSA Technical Group on Radiometry and Photometry, the Optical Society of Northern California, the Research Society of America, and IRIS (Infrared Information Symposium) Specialty Groups on Infrared Targets, Infrared Standards, and Infrared Countermeasures.



Medical Exams To Be Required Of Certain Students

A medical exam will be required this fall for certain categories of students enrolled at the Desert Campus of Bakersfield College, announced Raymond J. Marsh, assistant dean.

The new policy will apply to students taking 12 units or more, those who participate in physical education courses, and those enrolled in potentially hazardous classes such as machine shop and welding.

Marsh indicated that the change in college policy was adopted for the protection of the student and is a standard practice at other junior colleges.

A physical examination form will be issued to students at registration. Registration will not be officially completed until the student has returned the physical examination form signed by his doctor not later than September 18, 1970.

Registration at the Desert Campus will take place on Tuesday, September 1 and Thursday, September 3, from 5 to 8 p.m. in the Burroughs High School Multi-Use Room. Day registration will be held on Friday, September 4, from 9:30 a.m. to 3:30 p.m.



VX-5's Best Sailor

AZ3 Curtis Overstreet has been chosen VX-5's Sailor of the Month for August.

A unanimous choice of the VX-5 selection board, Overstreet is the technical publications librarian in the squadron's Quality Assurance Division. He was honored for his conscientiousness in maintaining up-to-date records and his courteous and cooperative attitude.

Overstreet received a B.S. degree in economics from West Texas State University in February, 1968, and was employed by International Business Machines as a systems engineer for eight months before he entered the Navy in November, 1968.

After boot camp in San Diego, he attended aviation maintenance administration "A" school at NATTC Memphis and graduated first in his class. In November, 1969, Overstreet was assigned to VX-5.

In off-duty hours, he is an outstanding golfer and finished fifth in the Navy's Pacific Regional Golf Tournament in July.

A native of Amarillo, Texas, Overstreet resides on the Center at 65-A Franklin with his wife Jan and their 14-month-old son Christopher.

COM Schedules Annual Luau September 11

Roast suckling pig . . . prime rib of beef . . . Hawaiian salads . . . dancing girls . . . Hawaiian music . . . all this and more will be available to members of the Commissioned Officers' Mess and their guests at the annual Luau, to be held at the COM Friday, September 11.

Dinner will begin at 7:30 p.m., and the entertainment begins at 8 p.m. In addition to pig and prime rib, other selected items on the menu will include: oysters Malakai; chicken, Hawaiian style; dressed salmon; dressed turkeys; cold ham with pineapple; vegetables; and for dessert, creamed caramel or fresh fruit.

Tickets are \$7.50 each, and patrons may eat all they like. The Luau will be held on the Lanai at the Club. Dress is Hawaiian, or casual. All members of the COM and their invited guests are invited to come, stated Jack Roberts, manager, and " . . . enjoy the sweet island sounds of the South Sea Islanders," a group from Southern California.

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related to the Center's mission wherein the material presented and discussed may need to be of a classified nature. The courses deal with the special problems of weapons research, design, development, test, evaluation, production, and use.

Admission is restricted to NWC employees and naval personnel and requires advance submission of the standard Course Enrollment form 11ND NWC 12410/28 (Rev 6-69) bearing the signature of the employee's immediate supervisor, and such additional signatures as the employee's department may require. Departments shall be prepared to list their nominees for enrollment in priority order in the event the number of requests for enrollment exceeds the specified limit.

The courses consist of 16 hours of instruction, scheduled normally as one two-hour session per week during normal working hours throughout an eight-week period. Successful completion of a given course is recorded in the employees personnel jacket.

S & E 10—Technical Report Writing
 Dates: 6 October-24 Nov. 1970
 Time: 0800-1000
 Location: Room 203, Training Center
 SCOPE: Designed primarily for scientists and engineers who need help in organizing and presenting the results of their work in written form, including illustrations. Not an English composition course but some basic elements of good reporting are included with the accent on application of the elements of technical writing. Practice in abstracting and other brief forms of writing will be included.
 Instructor: C. E. Van Hagen, Head, Publishing Division, Technical Information Dept.

S & E 28 A—Program Planning and Project Management
 Dates: 5 October-23 November 1970
 Time: 0800-1000
 Location: Room 203, Training Center
 SCOPE: This course will include: the origin of Navy sponsored projects; DOD and Navy project planning procedures and policies; principles of project management; characteristics of project management at NWC; methods of project planning, control, monitoring and reporting; how to establish the project team; assigning responsibilities and motivating working groups; documentation; development of the final product.
 Instructor: E. G. Love, Head, Program Management and Integration Group, Propulsion Development Department.

S & E 29—Magnetic Tape Recording Techniques for Instrumentation
 Dates: To be announced.
 Time: To be announced.
 Location: Training Annex #1
 SCOPE: This is a course on magnetic tape recording principles with direct applications to instrumentation and telemetry systems. Emphasis is on a basic understanding of magnetic tape recording and the limitations of present magnetic tape equipment. The course is suitable for mechanics, technicians, engineers and other personnel who use or plan to use tape recorders for instrumentation or telemetry.
 Instructor: To be announced.

JOURNEYMAN & TECHNICIAN DEVELOPMENT CLASSES

The courses in this area are divided in two categories—Autotutor (programmed instruction) and Correspondence courses—for development of background skills in work related areas. Enrollment for these courses is on NWC Enrollment Form 12410/28, submitted to Code 654 via proper departmental channels. Enrollment in these courses can begin immediately. Counseling appointments, to insure that employees receive the course best suited for their training needs, may be set up by calling Jerry Maxwell on extension 2451. Below are listed selected courses from those available through each agency. A complete listing of courses with course descriptions can be reviewed by contacting Jerry Maxwell in the Training Center at extension 2451.

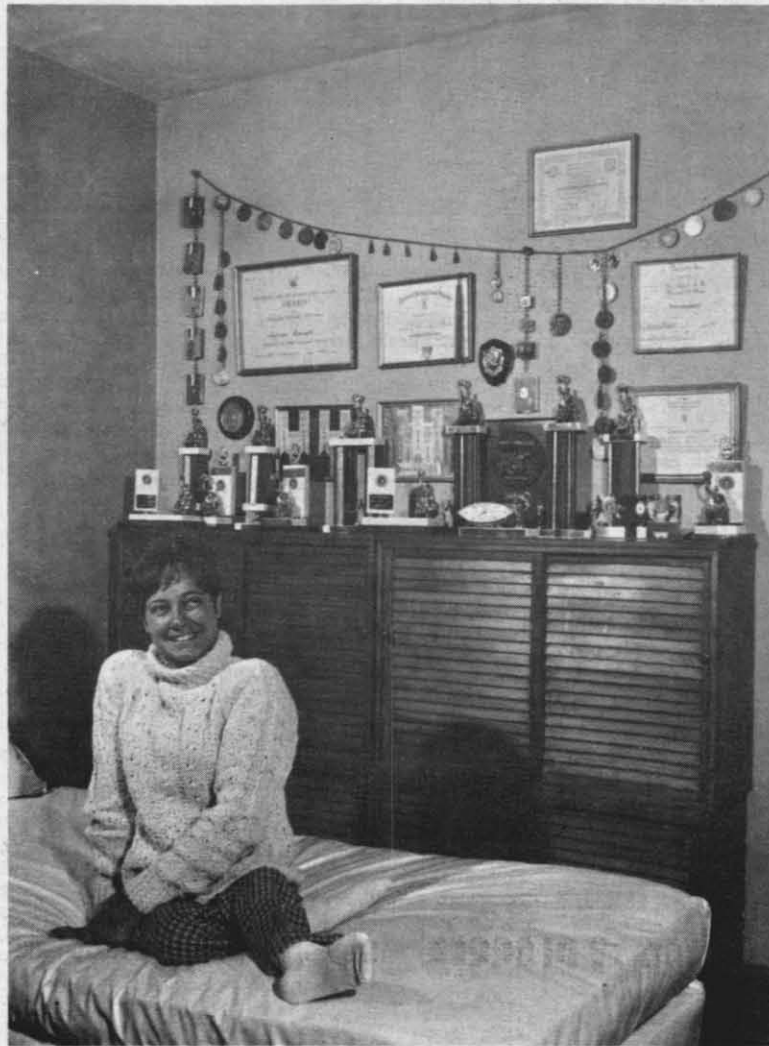
Category I — Autotutor
 These courses use a machine and film that displays problems, questions and answers. The time per program varies. Students study either Monday, Wednesday, Friday or Tuesday, Thursday for 2 hour sessions.

- SAMPLE OF COURSES OFFERED**
1. First Year Algebra
 2. Career English
 3. Introduction to Computer Math
 4. A First Course in Programming
 5. First Year Electronics
 6. Effective Executive Practices
 7. Blueprint Reading and Shop Math
 8. Practical Electronics

Category II — Correspondence Courses
 These courses are offered by various government agencies. They are to be completed within one year from date of enrollment.

- SAMPLE OF COURSES OFFERED**
- Navy**
1. Basic Arithmetic
 2. Basic Principles of Electricity
 3. Basic Control Theory & Control Circuits
 4. Plumbing
 5. Maintenance Inspector
 6. Water & Sewage Plant Operations
 7. Supervision and Management for Navy Civilian Personnel
 8. NAVPERS Courses for enlisted personnel that civilians may participate in.
- Air Force**
1. Motion Picture Camera Specialist

2. Fundamentals of Electricity
 3. Air Electronics (a variety)
 4. Missile Guidance & Control
 5. Motor Vehicle Maintenance
 6. Metal Working
 7. Fire Protection
 8. Management Analysis
 9. Data Systems
 10. Security Policeman
- Army**
1. Engineering
 2. Finance
- Marines**
2. Utilities
 2. Welding
 3. Blueprint Reading
 4. Data Processing



NEW COUNSELOR — Joanna Cornett, who has recently joined the staff of the Desert Counseling Clinic, sits on her bed amid trophies she has won in international competition since 1964. Joanna excels in swimming, archery and track and field events. She has traveled all over the world while competing in athletics, and as a member of a United States team has made extensive trips across the country.

Most Unusual Girl

New Desert Counseling Staffer Holder of Many Sports Awards

Joanna Cornett, the newest member of the Desert Counseling Clinic staff, is a most unusual young lady. At 25 years of age, she holds a Master's Degree in Guidance and Counseling from the University of Illinois, where she also received her Bachelor of Science Degree. In addition, she has attended Arizona State University, California State Polytechnic College, and the Bulova School of Watchmaking.

What's unusual about that? Well, add to that the fact that she has won 20 gold medals, 10 silver medals, and 11 bronze medals in international competition in sports ranging from swimming, archery, track and field.

In addition, she is the current record holder of breaststroke and freestyle swimming events and was voted Southwest Virginia's Outstanding Woman in 1969. Joanna also is a member of Kappa Delta Pi, the Educational Honor Fraternity.

Still not too unusual? These events are very unusual when it is learned that Joanna Cornett is a paraplegic. She was a member of the United States

Wheelchair Sports Team from 1964 to 1969, and competed in the Para-Olympics each of the six years.

Her experience in counseling includes a tour with the Rancho Los Amigos Rehabilitation Center, and worked under Dr. J. Pancrazio with the Chantre Air Force Base Counseling Clinic in Rantoul, Illinois. She is a member of the American Personnel and Guidance Association; College Personnel Association; American Rehabilitation Counseling Association, and Delta Sigma Omicron.

Her interests, in addition to competing in sports, include oil painting, art and reading. She has traveled and competed in countries throughout the world and the United States while a member of the Wheelchair Team.



Last Opportunity For Valleyites To See 'Music'

Local theater-goers will have a last opportunity to see the Community Light Opera and Theater Association production of "Sound of Music," this weekend, August 28 and 29, beginning at 8:15 p.m. each evening, at Murray Auditorium.

The Rodgers and Hammerstein musical is based on the book "The Von Trapp Family Singers," written by Maria Von Trapp, and stages the true story of the Von Trapp family during the Nazi take-over in Austria, prior to World War II. The production, which is directed by Phelps TerHeun, assisted by Chuck Wilcox as Technical Director, Vivian Childers as Costume Designer, Roman Motyka and Bill Sweatt on Lighting, and Karyn Harris as Choreographer, features a backstage crew of 19 persons, needed to move the huge flats and scenery around.

The cast includes Lana Lee Kline as Maria, John Feeley as Captain Georg Von Trapp, Jack Lindsey as Max Detweiler, Lana Widener as Elsa Schraeder, Jacqueline Jessburger as Frau Schmidt, Bob Pinney as Franz, the butler, and also as Herr Zeller. Wes Willett is featured as Rolf, Gerry Baker portrays Baron Elberfeld, and Fred Jessburger is seen as Admiral Von Schreiber.

The Von Trapp children are portrayed by Nancy Hawthorne as Liesl, Bart Moore as Freidrich, Michelle Bargowski as Louisa, Mark Bargowski as Kurt, Elizabeth Knemeyer as Brigitta, Teresa Jessburger as Marta, and Joane Fragman as Gretl.

Members of the Nun's Chorus include Lauretta Stogsdill as the Mother Abbess, Barbara Lewis as Sister Berthe, Lucille Bushnell as Sister Margarethe, and Linda Webb as Sister Sophia.

Tickets are now on sale at the Station Pharmacy, the Gift Mart and Medical Arts Pharmacy, or from members of the cast, or at the door.

Barbecuing Indoors Begets Safety Hazards

Outdoor barbecues are one of the pleasures enjoyed by Center residents during the warm summer and fall months. However, warns the NWC Safety Department, barbecuing indoors with charcoal briquettes is an extremely dangerous practice, and care should be exercised to light these briquettes only in well ventilated outdoors areas.

Briquettes, when burned in a confined space, release a large amount of carbon monoxide gas which can result in severe poisoning or death.

The gas is invisible, odorless and tasteless. Persons exposed for prolonged periods may experience headaches, dizzy spells, weakness, mental depression, nervousness, irritability and circulatory impairment.

Users of hibachi pots and grills which burn charcoal are urged not to move these cooking implements to cars, trailers, enclosed porches or indoors in case the summer "cook-out" is spoiled by rain

COURSE SCHEDULE — FALL 1970

- University of Southern California Graduate Program in Public Administration
- University of California, Santa Barbara Extension Courses in Science and

- Engineering
 Extension Courses in Procurement
 Lecture Series in Contemporary Science and Engineering for Senior Professionals
 • Bakersfield Junior College, Desert Campus

- On-Center Short Courses
- S & E Day Classes
- Journeyman & Technician Development Classes
- Programmed Instruction
- Home Study Courses & Career Programs

PREFACE

This Course Schedule provides detailed information about programs and individual courses open to Center employees during the Fall 1970. The Schedule covers all courses that have been formally scheduled to date. It includes accredited university and junior college courses; on-Center short courses in a variety of areas; programmed instruction (Autotutor) and home-study courses.

These courses were developed largely in response to needs identified by the various departments of the Center through their inputs for training requirements during FY1971. Departments are encouraged to continue working with their Personnel Management Advisers in the identification of training needs and to discuss development plans and courses.

WILLIAM R. RILEY
 Acting Head, Personnel Department

USC SCHEDULE OF CLASSES COURSES IN PUBLIC ADMINISTRATION

Three graduate courses in Public Administration will be offered at China Lake by the University of Southern California during the Fall 1970 semester. An undergraduate major in engineering, business, or physical, biological or social sciences is acceptable as pre-professional background for Public Administration purposes, if an employee so desires.

PA 500—Fundamentals of Public Administration (4 Units)
 Dates: To be announced
 Location: Room 101, Training Center
 Instructors: Ed Alden and Milton Ritchie, NWC
 CONTENT: Concepts of the discipline; Role of the government in modern society; essentials of the management of public business; introduction to organizational theory, personnel, finance administration.

PA 575—Science Technology and Government (4 Units)
 Dates: To be announced
 Location: Room 101, Training Center
 Instructor: Dr. Ross Clayton, USC
 CONTENT: One of three courses in the R & D Specialization. Impact of science/technology on government policy, processes, institutions; critical policy areas in science/technology; machinery for formulating science policy; governmental impact on science/technology.

PA 591—Research in Complex Organizations (4 Units)
 Dates: Intensive Semester
 Location: Room 101, Training Center
 Instructor: Professor Alec McEachern, USC
 CONTENT: Philosophy of science; research theory and methodology in the social sciences, preparation of research designs, solving bibliographical problems.

Registration: Mr. Phillip Hutchins, USC Extension Division, will conduct registration in Room 211, Training Center, on Friday 18 September 1970 at 1300. Dr. Ross Clayton will be available for consultation in Room 104 of the Training Center on Thursday, 17 September 1970 from 1300-1630; on Friday, 18 September 1970 from 0800-1130.

Books for these courses will be on sale at the time of registration.
 For further information contact Cathy de Wolfe, Code 654, at extension 2480 or 2451.

GRADUATE PROGRAM IN ENGINEERING

This program is designed to serve two purposes: (1) enable NWC employees to complete at China Lake six of nine courses required by the University of Southern California for a Master of Science degree in Electrical or Mechanical Engineering, and four of the eight courses required for the Master of Science in Physics and (2) afford those who want to advance their training by taking only certain courses an opportunity to do so.

Students who are not NWC employees may also enroll in these courses but subject to availability of space and payment of tuition which is \$65 per unit of credit.

NWC employees, whether enrolled in courses offered last semester or not, must submit at the time of registration NWC Enrollment Form 12410/41 (1-69) bearing the required signatures.

Students pursuing an advanced degree must take the Graduate Record Examination before they can be admitted to graduate status in the program. Anyone wanting to take the examination should contact Eva Bien (Code 656) on extension 2577.

Students desiring to enroll in the program or having questions about the course should contact the Education Director on extension 3327 or 3328.

Registration: Registration will be held in Room 109, Training Center, Wednesday through Friday, 16, 17, and 18 September from 1000-1200 and 1300-1600. Textbooks will be available for purchase at the time of registration.

Late registration will be by appointment only. Those desiring an appointment should contact R. Fred-

ric Ladda on extension 2686.

The curriculum as presently laid out spreads six courses over three semesters. The courses to be offered this Fall Semester are listed below. ME courses begin Monday 21 Sept., EE courses and Physics begin Tuesday 22 Sept.

COURSE SCHEDULE — FALL SEMESTER

ME 420—Engineering Vibrations I (3 Units)
 CONTENT: Theory of free and forced vibrations with and without damping systems of single and multiple degrees of freedom; iteration; methods: vibration isolation; instrumentation.
 Text: Vibrations Analysis by Vierck, International Book Co.
 Time/Place: 0800-0930, Mondays and Wednesdays, Room 107, Training Center
 Instructor: W. J. Stronge, Ph.D., Research Department

ME 425a—Engineering Analysis (3 Units)
 CONTENT: Typical engineering problems discussed on a physical basis. Setup and solution of problems by means of the existing mathematical tools utilizing in particular matrix algebra, vector analysis and complex variables.
 Text: Advanced Engineering Mathematics by Wiley, McGraw-Hill
 Time/Place: 0945-1115, Mondays & Wednesday, Room 107, Training Center
 Instructor: A. R. Maddox, Ph.D., Weapons Development Dept.

EE 464—Probability Theory for Engineers (3 Units)
 CONTENT: Probabilistic Models; axiomatic foundations, random variables, probability densities, averages, linear estimation, random vectors and their statistics, sequences of random variables, introduction to stochastic processes.
 Text: Probability, Random Variables and Stochastic Processes by Papoulis, McGraw-Hill
 Time/Place: 0800-0930, Tuesdays & Thursdays, Room 107, Training Center
 Instructor: To be announced.

EE 470—Electromagnetics II (3 Units)
 CONTENT: Dynamic field theory and elementary solutions to Maxwell's equations. Introduction to propagation and radiation of electromagnetic fields. Topics covered include: skin effect, phase and group velocity, transmission line analogs, wave polarization, guided waves between plates and in common wave guides, resonant cavities, losses, coupling and Q.
 Text: Fields and Waves in Communication Electronics by Ramo, Wiley.
 Time/Place: 0945-1115, Tuesdays & Thursdays, Room 107, Training Center
 Instructor: C. K. Bullock, Ph.D., Aviation Ordnance Department.

Physics 508A—Advanced Electricity and Magnetism (3 Units)
 CONTENT: Electrostatics, magnetostatics, quasi-stationary phenomena; multiple expansions; microscopic models of matter; Maxwell's equations.
 Text: Classical Electrodynamics by Jackson, Wiley
 Time/Place: 1430-1600, Tuesdays & Thursdays, Room 107, Training Center
 Instructor: J. L. Stanford, Ph.D., Research Dept.

UCSB

The courses offered through this program are for the benefit of local personnel wishing to increase their knowledge in specific areas. If the training can be certified as work related the enrollment fee can be waived.

To facilitate registration potential participants are requested to notify the Education Director on extension 3327 or 3328 of their interest in specific courses prior to the formal registration period which is 28, 29, 30 September and 1 October 1970 from 10 A.M. to 12 Noon and 1 to 3 P.M. in Room 109 of the Training Center.

NWC personnel may enroll without payment of registration fee if they submit at the time of registration NWC Enrollment Form 12410/28 certifying that the course meets training needed in the performance of official duties.

Students who are not NWC employees may also enroll in these courses, but subject to availability of space and payment of tuition which is \$20 per unit of credit. Textbooks will be available for purchase at the time of registration.

FALL QUARTER 1970

ME-XSB-1—Engineering Mechanics (4 Units)
 CONTENT: An introductory development of the fundamentals of statics and dynamics with application to problems of engineering interest. Emphasis is placed on the analytical processes required to apply physical principles to the solution of engineering problems.
 Prerequisites: Calculus and Analytic Geometry or consent of the instructor.
 Text: Vector Mechanics for Engineers—Statics Vol. I, Beer, McGraw-Hill
 Instructor: R. W. Van Aken, M.S., Weapons Development Department.
 Time/Place: 1630-1830, Mondays & Wednesdays, Room 107, Training Center, starting 5 October 1970.

Engr.—XL 131A—Intermediate Heat Transfer I (4 Units)
 CONTENT: Heat transfer by conduction in a stationary medium and by convection in a laminar flowing fluid. Steady-state and transient conduction in solids, heat transfer in laminar entrance flow in ducts and laminar boundary layer flows over surfaces.
 Prerequisite: Engineering Thermodynamics and Transport Phenomena or consent of the instructor.
 Text: Principles of Heat Transfer, Kreith, International Textbook Co.
 Instructor: W. H. Theilbahr, Ph.D., Propulsion Development Dept.
 Time/Place: 1830-2030, Mondays & Wednesdays, Room 107, Training Center, starting 5 October.

XSB 118A—Electrical Engineering Circuits (4 Units)
 CONTENT: Elements of electrical circuit analysis, with emphasis on solutions of passive linear lumped parameter circuit problems: analogues and duals; applications of steady-state and transient analysis to linear electrical, mechanical, acoustic and thermal systems.
 Prerequisites: High School Physics, College Algebra, or the consent of the instructor.
 Text: Electrical Engineering Circuits—Skilling, Wiley, 2nd Edition.
 Instructor: R. M. McClung, M.S., Aviation Ordnance Dept.
 Time/Place: 1630-1830, Mondays & Wednesdays, Room 211, Training Center, starting 5 October 1970.

EE-XSB 146A—Communication Circuits and Systems I (3 Units)
 CONTENT: Analytical representations of signals and noise, the role of Fourier and Laplace transformations in communication systems analysis; modulation theory, design of modulators and demodulators, noise producing mechanisms in electronic circuits, system performance evaluations, introduction to the fundamental concepts of information theory.
 Prerequisites: Electronics, Engineering Analysis and Network Theory or consent of the instructor.
 Text: Communications Systems: An Introduction to Signals and Noise in Electrical Communication, B. B. Carlson, McGraw-Hill.
 Instructor: F. R. Phillips, Ph.D., Weapons Development Dept.
 Time/Place: 1630-1800, Tuesdays & Thursdays, Room 107, Training Center, starting 6 October 1970.

Math XSB 124 —Topics in Applied Mathematics I (3 Units)
 CONTENT: Fourier series, ordinary differential equations, Laplace transform, partial differential equations, boundary value problems, Fourier transform, topics in complex analysis.
 Prerequisites: Analytic Geometry and Calculus—or consent of the instructor.
 Text: Mathematics of Physics and Modern Engineering, Sokolnikoff, McGraw-Hill.
 Instructor: G. A. Hower, Ph.D., Research Dept.
 Time/Place: 1830-2000 Tuesdays & Thursdays, Room 107, Training Center, starting 6 October 1970.

Math X102—Numerical Analysis (3 Units)
 CONTENT: Interpolation and approximation; numerical differentiation and integration; error analysis; numerical solutions of algebraic and ordinary differential equations.
 Prerequisite: Introduction to Differential Equations or consent of the instructor.
 Text: Elementary Numerical Analysis, S. D. Conte, McGraw-Hill.
 Instructor: A. A. Foltz, M.A., Weapons Development Dept.
 Time/Place: 1630-1800, Room 211, Training Center, starting 6 October 1970.

CONTEMPORARY SCIENCE & ENGINEERING FOR THE SENIOR PROFESSIONAL

Phase I—Mathematical Review and Computer Technology
 Dates: 25 Sept.-18 Dec. 1970
 Time: 1300-1600 Fridays
 Location: Room 107, Training Center
 SCOPE: Course starts with a mathematical review of Algebra, Calculus, LaPlace transforms, and ordinary and partial differential equations. The review closes with a brief discussion of probability and statistics, this provides the foundation for the computer technology material and Phases II and III. The course includes: introduction to digital computers; organization and logical design of a computer; software world from a systems programming and applications view-

point; discussion of computer languages; discussion of analog and hybrid computation.
Instructor: Roger C. Wood, Ph.D., Professor of Electrical Engineering, UCSB.

Phase II—Information Theory, Queuing and Control Processes—Theory and Applications.

Dates: Starting date to be announced.
Time/Place: Same as above.
SCOPE: The tools and information gained during Phase I will be related to communication and information theory by application to integrated systems. Encoding and digitalization through high speed switching means for storage and retrieval of information and systems control by electronic and fluidic devices will be considered along with lasers and masers in telephony, holography and other areas.
Text: Textbooks and class notes will be supplied to all participants.

Prerequisite: Participants should be Scientists or Engineers who have had little or no formalized academic training for at least 10 years.

SCHEDULE OF CLASSES AND REGISTRATION DESERT CAMPUS Bakersfield College CALENDAR

(Bakersfield College Desert Campus reserves the right to make any calendar or schedule changes and to cancel any class.)
College Aptitude and Placement Tests (Part I)

August 4 6 p.m.

August 5 6 p.m.

August 5-28 8 a.m.-5 p.m.

August 15 8 a.m.

Open Registration September 1 5-8 p.m.

Open Registration September 3 5-8 p.m.

Open Registration September 4 9:30 a.m.-3:30 p.m.

Bookstore To Open in College Room 1 September 4 10 a.m.-3:30 p.m.

Labor Day Holiday—No Classes September 7

Instruction Begins September 8

Bookstore Open Monday Through Thursday September 8-24 4:30-7:30 p.m.

Late Registration in College Office for Classes Not Closed September 8-18

Last Day To Change Audit to Credit or Credit to Audit in Adult Education Courses—September 23

Last Day To Apply for Credit—No-Credit Grading October 16

Last Day To Drop a Course Without a Recorded Grade October 23

FOR ADDITIONAL INFORMATION—SEE THE DESERT CAMPUS BULLETIN 1970-71

To complete registration forms, students need the NCR ticket number which appears on the schedule at the left of the course title. For example, the NCR number for Biology 10 is 3610.80. Also needed are the dates of entrance—September 8 for Tuesday-Thursday classes; September 9 for Monday-Wednesday or Wednesday only classes; September 10 for Thursday classes; and September 13 for Monday only classes.

*Classes so marked are classes that may be taken on a credit-no-credit basis. Students who are enrolled in courses which have been approved for credit-no-credit grading may petition to receive such grading through their counselors. Only 3 units of credit-no-credit classes may be taken each semester. The deadline to petition for credit-no-credit grading is Friday, October 16 (the end of the sixth week). All other classes are graded classes and must be taken for credit. Students may not audit a graded class.

**Indicates adult education classes which may be audited.

(The Desert Campus of Bakersfield College is a fully accredited two-year college offering comprehensive academic and vocational programs. It is located on the southern portion of the Burroughs High School campus on East French Street in Ridgecrest.) For appointments and additional information, telephone (714) 375-1548.

NCR Ticket No.

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8122.55 Aeronautics 50—General Aeronautics Monday, 7:00-9:53 Room D26, 3 units Mr. Carlisle (Prerequisite: none.)

6230.85 Animal Husbandry 10—Horse Production Monday and Wednesday, 7:00-8:23 Room D26, 3 units Dr. Jackson (Prerequisite: none.)

*617.85 Art 7AB—Ceramics Monday and Wednesday, 5:30-8:23 Room G02, 3 units Mr. Erwin (Prerequisite: none.)

1263.85 Business 51—Business Mathematics Monday and Wednesday, 5:30-6:53 BSC, 3 units Mrs. Grecu (Prerequisite: none.)

1368.85 Business Administration 1A—Principles of Accounting Monday and Wednesday, 5:00-6:53 Room 2, 3 units Mr. Sheckler (Prerequisite: Sophomore standing.)

1387.85 Business Administration 1BA—Business Law Tuesday and Thursday, 8:30-9:53 Room 2, 3 units Mrs. Johnson (Prerequisites: Sophomore standing or permission of instructor.)

5578.85 Chemistry 13—General Inorganic Chemistry Monday and Wednesday, 5:10-6:00, Lecture Room 2 Monday, 7:00-9:53, Lab, Room 4 Dr. Cleaves (Prerequisite: High School chemistry and advanced

algebra with grades of "B" or better, or Chemistry 2A and Mathematics D with grades of "C" or better.)

5960.85 Chemistry—Special Projects (See Physical Science 21)

5960.85 Chemistry 60—Introduction to Geochemistry Thursday, 7:00-7:53, Lecture Room D29B Thursday, 8:00-9:53, Lab, Room 4 2 units Dr. Cleaves (Prerequisite: none.)

1482.85 Computer Science 1—Appreciation of Digital Computers Monday and Wednesday, 5:30-6:53 Room L57, 3 units Mr. Fryer (Prerequisite: none.)

1491.85 Computer Science 1B—Computer Mathematics (Fortran) Tuesday and Thursday, 7:00-8:23 Room D25, 2 units Mr. R. Westbrook (Prerequisite: Math 6A or Math 58C or equivalent may be taken concurrently.)

1510.85 Data Processing 1—Introduction to Data Processing and Computing Tuesday and Thursday, 7:00-8:23 Room L57, 3 units Mr. Lewis (Prerequisite: A minimum of two years high school math or Math A which may be taken concurrently.)

1548.85 Data Processing 4—Advanced Business Programming (Cobol) Monday and Wednesday, 7:00-9:23 Room L37, 3 units Mr. Helsten (Prerequisite: Data Processing 50 or permission of the instructor.)

1577.85 Data Processing 50—Card Punch Operation Wednesday 5:00-10:00 A.A.S.L.L. 1 unit Mrs. Massaro (Prerequisite: Data Processing 50 or approval of the instructor and ability to type 25 words per minute. Class begins on September 23 and ends on October 30—6 weeks.)

1577.85 Data Processing 56—Card Punch Operation Wednesday, 5:00-10:00 A.A.S.L.L. 1 unit Mrs. Massaro (Prerequisite: Data Processing 50 or approval of the instructor and ability to type 25 words per minute. Class begins on November 4 and ends on December 9—6 weeks.)

*1995.85 Drama 20—Introduction to Dramatic Literature Tuesday and Thursday, 5:30-6:53 Room F02, 3 units Mrs. Schwarzbach (Prerequisite: none.)

*2071.85 Drama 27—Theatre Laboratory Tuesday and Thursday, 7:00-9:53 Lecture Center, 1 unit Mrs. Schwarzbach (Prerequisite: none. Class begins on September 9 and ends on November 5—9 weeks. Drama majors may not take on a credit-no-credit basis.)

*2071.86 Drama 27—Theatre Laboratory Tuesday and Thursday, 7:00-9:53 Lecture Center, 1 unit Mrs. Schwarzbach (Prerequisite: none. Class begins on November 9 and ends on January 22—9 weeks. Drama majors may not take on a credit-no-credit basis.)

7583.85 Economics 1A—Principles of Economics Tuesday and Thursday, 5:30-6:53 Room 2, 3 units Mrs. Grecu (Prerequisite: none.)

8479.85 Electrical Technology 61—Vacuum Tube Theory Wednesday, 8:00-9:53 Training Annex 2, 1 unit Mr. Weir (Prerequisite: Electrical Technology 54A, 54B and Math 53A, 53B, or equivalent.)

8522.85 Electrical Technology 50—Shop Practice Tuesday, 5:00-7:53 Training Annex 2, 1 unit Mr. Weir (Prerequisite: Permission of the instructor.)

8379.85 Electrical Technology 54A—Fundamentals of Electricity Monday and Wednesday, 6:30-7:53, Lecture Thursday, 5:00-7:53, Lab Training Center, Room 203, 4 units Mr. Wood (Prerequisite: Mathematics 53A must be taken concurrently.)

8445.85 Electrical Technology 59A—Transistor Circuit Analysis Monday and Thursday, 5:00-5:53, Lecture Monday, 6:00-8:53, Lab Training Center, Room 212, 3 units Mr. Hughes (Prerequisite: Mathematics 53A-53B, Electrical Technology 54B and 53— or equivalent.)

*2118.85 English 1A—Expository Composition Monday and Wednesday, 7:00-8:23 Room M43, 3 units Mrs. Maddox (Prerequisite: Level 1 classification or a grade of "C" in English 50. English majors should not take on a credit-no-credit basis.)

*2251.85 English 34—Introduction to Books and Libraries Tuesday and Thursday, 6:00-6:53 Room M45, 2 units Mr. Selvera (Prerequisite: Eligibility for English 1A or permission of instructor. English majors should not take on a credit-no-credit basis.)

*2270.85 English 41B—Introduction to Creative Writing Monday and Wednesday, 5:30-6:53 Room M43, 2 units Mrs. Hower (Prerequisite: English 1A or permission of the instructor. English majors should not take on a credit-no-credit basis.)

2299.85 English 50—Introductory Composition Tuesday and Thursday, 7:00-8:23 Room M43, 3 units Mrs. Hower (Prerequisite: Level 2 classification or a grade of "C" in English 90 or 62.)

*2308.85 English 92—Reading Improvement Tuesday and Thursday, 8:30-9:23 Room B08, 1 unit Mr. Butler (Prerequisite: Level 2 classification or permission of instructor.)

2356.85 English 60—Basic Usage and Grammar Tuesday and Thursday, 5:30-6:53 Room M43, 3 units Mrs. Hower (Prerequisite: Level 3 classification or a grade of "B" in English 90.)

2384.85 English 62—Developmental Reading Monday and Wednesday, 5:30-6:53 Room B08, 3 units Mrs. Maddox (Prerequisite: Level 3 classification or a grade of "B" in English 90.)

*2470.85 English 5—Spelling Improvement Thursday, 5:00-5:53 Room M45, 1/2 unit Mr. Selvera (Prerequisite: none. Required of students in English 50 or 1A who fail the spelling classification test. Open to all students.)

7049.85 Fire Science 52—Introduction to Fire Suppression Monday, 6:00-8:53 Fire House 1, 3 units Mr. Brust (Prerequisite: Fire Science major or employment in a Fire Science Agency.)

7049.87 Fire Science 52—Introduction to Fire Suppression Wednesday, 6:00-8:53 Fire House 1, 3 units Mr. Brust (Prerequisite: Fire Science major or employment in a Fire Science Agency.)

7049.88 Fire Science 52—Introduction to Fire Suppression Thursday, 6:00-8:53 Fire House 1, 3 units Mr. Brust (Prerequisite: Fire Science major or employment in a Fire Science Agency.)

5728.85 Geology 6B—Crystallography Wednesday, 6:00-9:53 Room 4, 2 units Dr. Austin (Prerequisite: Geology 6A.)

2593.85 German 3—Intermediate German Tuesday and Thursday, 5:30-7:23 Room D20, 4 units Miss Kornmann (Prerequisite: German 2 or three years of high school German.)

6051.85 Health Education 1—Principles of Health Education Tuesday and Thursday, 7:00-7:53 Room L88, 2 units Mrs. J. Westbrook (Prerequisite: none.)

*7581.85 History 6—The City in Western Civilization Monday and Wednesday, 8:30-9:53 Room 2, 3 units Mr. D. Rosenberg (Prerequisite: none.)

*7647.85 History 17B—History of the United States Monday and Wednesday, 5:30-6:53 Room 3, 3 units D. Rosenberg (Prerequisite: Qualifying score on the college aptitude test or a grade of "C" or higher in Social Science 53A.)

*7676.85 History 18—History of California Tuesday and Thursday, 7:00-8:23 Room D26, 3 units Mr. Butler (Prerequisite: none.)

*3097.85 Home Economics 15A—Interior Design Wednesday, 6:30-9:23 Room C18B, 3 units Mrs. Novascone (Prerequisite: none.)

*3154.85 Home Economics 51B—Tailoring Tuesday, 5:30-8:23 Room C18B, 1 unit Mrs. Haugen (Prerequisite: Home Economics 50, 51A, or permission of the instructor.)

*3277.85 Home Economics 71A—Tailoring Thursday, 5:30-8:23 Room C18B, 1 unit Mrs. Haugen (Prerequisite: Skill in hand and machine sewing and some background in pattern and project selection.)

5861.85 Industrial Drawing 30A—Industrial Drawing Monday and Wednesday, 7:00-9:53 Room M48, 3 units Mr. Ingle (Prerequisite: none.)

*3391.85 Journalism 11A—Principles of Newspaper Editing Monday and Wednesday, 7:00-9:23 Room 3, 2 units Mr. Silva (Prerequisite: none.)

*3401.85 Journalism 11B—Principles of Newspaper Editing Monday and Wednesday, 7:00-9:23 Room 3, 2 units Mr. Silva (Prerequisite: 11A or permission of the instructor.)

*3410.85 Journalism 11 C—Magazine and Yearbook Editing Practices Monday and Wednesday, 7:00-9:23 Room 3, 2 units Mr. Silva (Prerequisite: 11A or permission of the instructor.)

*3420.85 Journalism 11D—Magazine and Yearbook Editing Practices Monday and Wednesday, 7:00-9:23 Room 3, 2 units Mr. Silva (Prerequisite: 11A or permission of the instructor.)

*3477.85 Library Technology 50—Introduction to Library Technology Monday and Wednesday, 5:30-8:23 Room M45, 4 units Mr. Selvera (Prerequisite: none.)

3847.85 Life Science 53—General Biology Tuesday and Thursday, 5:30-7:53 Room 4, 3 units Mr. White (Prerequisite: none.)

8626.85 Machine Shop 53A—Elementary Machine Shop Monday, 5:00-9:53 Training Annex 2, 3 units Mr. Ladda (Prerequisite: none.)

8645.85 Machine Shop 53C—Advanced Machine Shop Wednesday, 5:00-9:53 Training Annex 2, 3 units Mr. Ladda (Prerequisite: Machine Shop 53B.)

4170.85 Mathematics A—Elementary Algebra Monday and Wednesday, 5:00-7:23 Room L31, 3 units Mr. Matulef (Prerequisite: none.)

4180.85 Mathematics C—Plane Trigonometry Tuesday and Thursday, 5:10-6:23 Room M48, 3 units Dr. Cleaves (Prerequisite: Plane geometry and grade of "C" or higher in either advanced high school algebra or Mathematics D.)

4199.85 Mathematics 2—Intermediate Algebra Monday and Wednesday, 7:00-8:23 Room 8, 3 units Mrs. Compton (Prerequisite: Grade of "C" or higher in either one year of high school algebra or Mathematics A.)

*4389.85 Mathematics 090—Basic Arithmetic Monday and Wednesday, 5:30-6:53 Room L32, 3 units Mr. Sheckler (Prerequisite: none.)

4327.85 Mathematics 6A—Analytic Geometry and Calculus Monday and Wednesday, 5:00-7:00 Room M41, 4 units Mrs. Compton

4284.85 Mathematics 22—Elementary Probability and Statistics Tuesday and Thursday, 5:10-6:30 Room M46, 3 units Mr. Dinamore (Prerequisite: Mathematics D or equivalent.)

4341.85 Mathematics 53A—Beginning Mathematics for Electronics Monday and Wednesday, 5:00-6:23 Training Center Room 203, 3 units Mr. Patterson (Prerequisite: One year of high school algebra or equivalent.)

8740.85 Metal 55—Metal Technology Tuesday, 5:30-9:23

Training Annex 2, 2 units Mr. Martin (Prerequisite: none.)

5885.85 Medical Science 60A—Medical Terminology Tuesday and Thursday, 7:00-8:23 Room L34, 3 units Mr. Forrand

4626.85 Music 14—Choir Monday, 6:00-9:53 Room F01, 1 unit Mr. Parker (Prerequisite: Interview by Director of Choir.)

4700.85 Music 22—Music Appreciation Tuesday and Thursday, 6:00-6:53 Room F01, 2 units Mr. Riley (Prerequisite: none.)

*4788.85 Music 70—Orchestra Tuesday, 7:00-9:53 Room F01, 2 units Staff (Prerequisite: Interview by Orchestra Conductor.)

1786.85 Office Skills 50A—Beginning Typing Tuesday and Thursday, 7:00-9:23 BSC, 3 units Mrs. Clapp (Prerequisites: Open to anyone who has not completed a year of high school typing with a grade of "C" or higher.)

4921.85 Orientation 1—Educational Planning Tuesday, 8:00-9:53 Room L35, 1/2 unit Mr. Riley (Prerequisite: None. Class begins on September 8 and ends on November 3—9 weeks.)

6583.85 Physical Education 31A—Standard Red Cross First Aid Tuesday, 8:00-9:53 Room L36, 1 unit Mr. White (Prerequisite: None. Class begins on November 10 and ends January 26—9 weeks.)

6593.85 Physical Education 31B—Advanced Red Cross First Aid Wednesday, 8:00-9:53 Room L36, 1 unit Staff (Prerequisite: P.E. 31A. Class begins on November 9 and ends on January 22.)

5960.85 Physical Science 21—Special Projects in Chemistry Time by arrangement, 3 hours per week. Room 4, 1 unit by arrangement Dr. Cleaves (Prerequisite: Completion of Chemistry 1B or Chemistry 8 with a grade of "B" or higher, or consent of the instructor.)

5975.85 Physics 1A—Mechanics Tuesday and Thursday, 5:30-6:53, Lecture Monday, 7:30-10:15, Lab Room D29A, 3 units Mr. Matulef (Prerequisite: Concurrent registration in Mathematics 6A.)

6027.85 Physics 10—Concepts in Physics Tuesday and Thursday, 8:30-9:53 Room D29A, 3 units Mr. Matulef (Prerequisite: One year of high school algebra or equivalent and qualifying score on the college aptitude test.)

7286.85 Police Science 64—Juvenile Procedures Tuesday and Thursday, 7:00-8:23 Room L35, 3 units Sgt. Roy (Prerequisite: Completion of first year courses or permission of Police Science coordinator.)

7334.85 Police Science 67C—Visual Perception as Applied to Law Enforcement Wednesday, 7:00-8:53 Room D29A, 1 1/2 units Dr. Harris (Prerequisite: Current employment in a law enforcement agency or permission of the instructor.)

*7790.85 Political Science 2—Comparative Government Monday and Wednesday, 7:00-8:23 Room 2, 3 units Mr. Rosenberg (Prerequisite: none.)

6830.85 Psychology 1A—General Psychology Tuesday and Thursday, 5:30-7:00 Room D28, 3 units Mr. Sheckler (Prerequisite: A qualifying score on the college aptitude test or a grade of "C" or higher in Psychology 51.)

2698.85 Russian 1—Elementary Russian Monday and Wednesday, 7:00-9:23 Room D21, 4 units Mr. Humphreys (Prerequisite: Adequate knowledge of English grammar.)

1890.85 Secretarial Training 50A—Elementary Gregg Shorthand Monday and Wednesday, 7:00-9:23 BSC, 3 units Mrs. Grecu (Prerequisite: Completion of Office Skills 50A with a grade of "C" or higher or concurrent enrollment in a typing class.)

*7828.85 Social Science 53A—Introduction to Social Science Monday and Wednesday, 5:30-6:53 B02, 3 units Mr. Silva (Prerequisite: none.)

*7847.85 Social Science 90—Pre-retirement Seminar Monday, 7:00-8:53 Room M40, 0 units Mr. Fekrat (Prerequisite: none.)

7923.85 Sociology 1—Introduction to Sociology Monday and Wednesday, 5:30-6:53 Room M 40, 3 units Mr. Fekrat (Prerequisite: none.)

7970.85 Sociology 21—Race and Poverty in American Life Tuesday and Thursday, 7:00-8:23 Room M40, 3 units Mr. Silva (Prerequisite: none.)

*2859.85 Spanish 53A—Elementary Conversational Spanish Tuesday and Thursday, 7:00-8:23 Room D21, 3 units Mr. Casados (Prerequisite: none.)

8749.85 Welding 53A—Oxy-Acetylene Welding Wednesday, 5:30-10:15 Room G03, 3 units Mr. Martin (Prerequisite: none.)

Training Annex 2, 2 units Mr. Martin (Prerequisite: none.)

5885.85 Medical Science 60A—Medical Terminology Tuesday and Thursday, 7:00-8:23 Room L34, 3 units Mr. Forrand

4626.85 Music 14—Choir Monday, 6:00-9:53 Room F01, 1 unit Mr. Parker (Prerequisite: Interview by Director of Choir.)

4700.85 Music 22—Music Appreciation Tuesday and Thursday, 6:00-6:53 Room F01, 2 units Mr. Riley (Prerequisite: none.)

*4788.85 Music 70—Orchestra Tuesday, 7:00-9:53 Room F01, 2 units Staff (Prerequisite: Interview by Orchestra Conductor.)

1786.85 Office Skills 50A—Beginning Typing Tuesday and Thursday, 7:00-9:23 BSC, 3 units Mrs. Clapp (Prerequisites: Open to anyone who has not completed a year of high school typing with a grade of "C" or higher.)

4921.85 Orientation 1—Educational Planning Tuesday, 8:00-9:53 Room L35, 1/2 unit Mr. Riley (Prerequisite: None. Class begins on September 8 and ends on November 3—9 weeks.)

6583.85 Physical Education 31A—Standard Red Cross First Aid Tuesday, 8:00-9:53 Room L36, 1 unit Mr. White (Prerequisite: None. Class begins on November 10 and ends January 26—9 weeks.)

6593.85 Physical Education 31B—Advanced Red Cross First Aid Wednesday, 8:00-9:53 Room L36, 1 unit Staff (Prerequisite: P.E. 31A. Class begins on November 9 and ends on January 22.)

5960.85 Physical Science 21—Special Projects in Chemistry Time by arrangement, 3 hours per week. Room 4, 1 unit by arrangement Dr. Cleaves (Prerequisite: Completion of Chemistry 1B or Chemistry 8 with a grade of "B" or higher, or consent of the instructor.)

5975.85 Physics 1A—Mechanics Tuesday and Thursday, 5:30-6:53, Lecture Monday, 7:30-10:15, Lab Room D29A, 3 units Mr. Matulef (Prerequisite: Concurrent registration in Mathematics 6A.)

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