



PUBLIC WORKS AIDS RETARDED — John Cleveland, left, presents \$213 check to Don Yockey for the IWV Council for Retarded Children, as Bob Waters, right, receives handshake of thanks. Money was collected by Public Works employees in lieu of exchanging Christmas cards.

Hope Cherry Is Art Festival Show Chairman

Hope Cherry, local Murray Junior High School art instructor, has been chosen chairman of this year's district show of the Kern County Art Festival. Mrs. Cherry announces that the annual event will be held on April 24 and 25 at the Community Center.

There are categories for elementary school art, high school, and adult amateurs. Professional artists will have an exhibit but will not compete at this level. Blue ribbon first-place winners advance to the County Finals in Bakersfield in May where they compete with other winners in various districts of the county.

Admittance to exhibit is by application only. Application blanks will soon be available locally and must be submitted to the Kern County Parks and Recreation Office in Bakersfield by March 1. All residents of Kern County are eligible to compete. All work must be original and must have been accomplished during the past year.

Desert Art League Hosts Ruby Hufford

The Desert Art League will hold its program meeting on Monday, Jan. 26, at the Community Center. Ruby Hufford of Laguna Beach will be the guest artist and will demonstrate collage. She will also exhibit some of her collages.

Mrs. Hufford is an exhibiting member of the Laguna Beach Art Association, the Artists Guild of Laguna Beach and has exhibited at the Laguna Festival of Arts for the last five years. She is a versatile artist, working in oils, collages, mixed media and stitchery. Her stitching was one of three in the United States accepted and hung in the Wichita National Show last year.

Adeline Williams, president of the Art League, will conduct a business meeting at 7:45 p.m. The public is most cordially invited to attend the program portion which will begin at 8:30.

Keep firearms where children and untrained adults can't get at them. A locked rack or cabinet is best. Store ammunition in a separate place.

SHOWBOAT

FRIDAY JAN. 22

"WAR LOVER" (105 Min.)
Steve McQueen, Robert Wagner
7 p.m.

(War-Drama) Highly interesting tale of a bomber captain who seems to enjoy his risk-filled missions despite the displeasure of his crew. He almost breaks up his copilot's romance in his want for destruction. An insight to men in war. Loaded with action. (Adult.)

Short: "Much Ado About Mousing" (7 Min.)
SATURDAY JAN. 23

—MATINEE—

"TIME MACHINE" (103 Min.)
Rod Taylor
1 p.m.

Shorts: "Chump Champ" (7 Min.)
"Capt. Marvel No. 11" (17 Min.)

—EVENING—

"RUNNING MAN" (103 Min.)
Laurence Harvey, Lee Remick
7 p.m.

(Drama in Color) Suspense and drama combine to weave a story of a supposedly dead man who plans to swindle an insurance company via his wife. Danger in foreign locale! (Adult.)

Short: "Magoo's Cruise" (7 Min.)

SUNDAY-MONDAY JAN. 24-25

"ROUSTABOUT" (101 Min.)
Elvis Presley, Barbara Stanwyck
7 p.m.

(Musical Comedy in Color) Motorcyclist Elvis joins a small carnival and immediately "falls" for a pretty girl whose father doesn't like him. Elvis even tries the cycle-drome and sings on the midway where he woos 'em and wows 'em. Step right up, folks! (Adults, Youth, Children.)

Short: "The Once Over" (7 Min.)

TUESDAY-WEDNESDAY JAN. 26-27

"THE VISIT" (100 Min.)
Ingrid Bergman, Anthony Quinn
7 p.m.

(Drama) Strictly adult drama of a fabulously wealthy woman who revisits the town of her youth and promptly offers a fortune for the life of a man who did her wrong two decades ago. This is an intriguing but sometimes repelling drama, stark and taut. (Adult.)

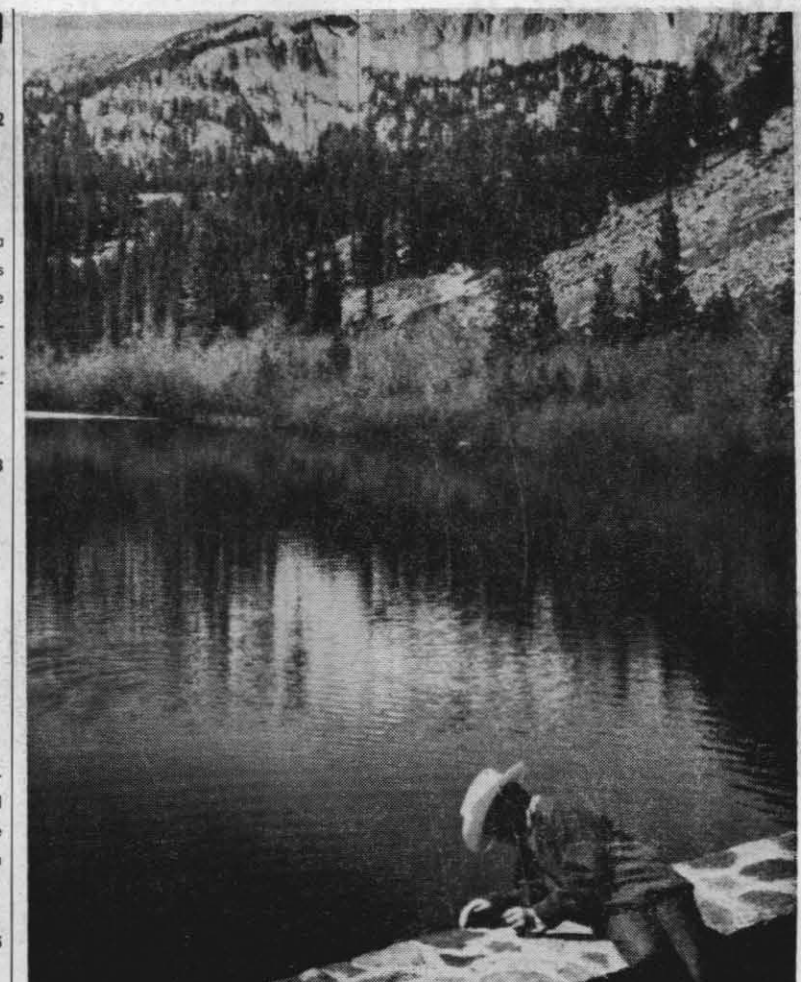
Short: "The Boy Who Swims Like a Fish" (10 Min.)

THURSDAY-FRIDAY JAN. 28-29

"SO DEAR TO MY HEART" (82 Min.)
Burl Ives, Luana Patten
7 p.m.

(Drama in Color) Walt Disney retold this live-action heart warming tale of young boyhood on an Indiana farm that is highlighted by the colorful county fair. For the young at heart. (Adults, Youth, Children.)

Shorts: "Nifty Nineties" (7 Min.)
"Arizona Sheepdog" (22 Min.)



TWIN LAKES in the Mammoth Lake area received Print-of-the-Month award this month at the China Lake Photographic Society. Louis R. Gilpatrick of Ridgecrest shot the scene with a Rolleiflex camera on 120 Plus X Professional film at 1/60 second at f.16 without a filter. Visitors are invited to next camera club salon meeting at 7:30 p.m., Feb. 10, at 361 McIntire St.

'Thieves Carnival' Now Casting For Spring Production

The second of two meetings for those interested in participating in "Thieves Carnival," major spring production by the Desert Division of Bakersfield College, will be held tonight at 8 p.m. The meeting is to be at Burroughs auditorium.

The meeting is open to any members of the community who would like to work in acting or in technical or promotional phases of the production. Those new to the college's drama program are especially welcome, the college said.

Anyone who is 18 or older or who is a high school graduate may participate. One unit of college credit is offered.

The play, which concerns three thieves who use numerous disguises, involves fanciful costumes, a new type of staging with the audience on two sides of the stage, music and special lighting effects.

Eagles To Meet Monday Evening

The Fraternal Order of Eagles will hold its regular monthly meeting next Monday evening, Jan. 25, at the Ridgecrest Moose Lodge, at 7:30 p.m.

Organizing Chairman Bob Waters reported that 40 charter members have been recruited by the local organization. The unit will be granted a charter when membership reaches 50, he added.

Refreshments and business discussions are included in the meeting to be held next week.



DR. HOWARD SHOMATE won Life Mastership in the American Contract Bridge League's regional tournament at Disneyland Hotel last week. Dr. Shomate (Code 5058) is the first member of the China Lake bridge unit to win the award. He picked up seven critical points while paired with George Blackshaw (Code 3515) and the final Life Mastership point in open pairs with Raymond Banks, formerly of China Lake.

Offer Part-Time Job

Special Services Office is seeking the services on a part-time basis of a woman with experience in bookkeeping.

Applicants are asked to call Lieutenant (jg) M. E. McGovern at Ext. 72017 for an interview appointment.

Form with fields for 'From', 'TO', and 'PLACE STAMP HERE'.

C. J. Renne Leads FJC Fund Drive

Clarence J. Renne, Head of Engineering Division, Propulsion Development Department, was named this week to lead the 1965 Federal Joint Crusade campaign for funds in a drive that opens here Friday, Feb. 5.



CLARENCE J. RENNE

Info Available To Military On State Tax Laws

Naval or Military service does not automatically exempt service personnel from state and local taxes. Although responsible for the payment of taxes the service member, because of the Soldier's and Sailor's Civil Relief Act, is liable, generally speaking, only for taxes to his "home" or "domiciliary" state, irrespective of where he may be serving.

As to state income taxes on 1964 earnings, service members are reminded that the federal government is providing a copy of their W-2 Forms (depicting 1964 earnings) to the income tax authorities in their home state or the state in which serving during 1964; if the service member advised the Disbursing Officer of his home state the W-2 Form will be sent there, otherwise the form will be forwarded to income tax authorities in the state where serving.

In any event, the certain result to follow is correspondence to practically all service personnel from state income tax officials unless, of course, the member files a timely return with the state wherein his tax responsibility rests.

Current information concerning state income tax laws is available at the Station Legal Office.

The veteran China Lake employee has called a campaign strategy meeting for keymen to be held next Tuesday morning, Jan. 26, in conference room "B," Michelson Laboratory.

He succeeds Jim Greenfield, last year's Chairman of the Federal Service Joint Crusade and National Health Agencies fund campaign.

Hopes for Quick Response
Solicitations will be confined to on-the-job contact, according to Renne, who issued advance plans this week to "wrap the job up in the first week" as an initial drive objective.

"We realize by past performance, that our NOTS employees' support for the combined agencies represented in this drive has been most generous.

"And, because of this continuing support and active interest, a long, drawn-out program is not anticipated," Renne added.

Keymen appointed as department representatives in the upcoming campaign are

Erma Agnew, Codes 00, 11, 13, 14, 15, 16 and 17; Rod Weldon, Code 12; Lt. Edward E. Leutenschwager, Code 18; Les Fairall, Code 20; Ben S. Wensinger, Code 25; Charles H. Moore, SHC, Code 28; Mary Lou Gott, Code 29; Hazel Campbell, Code 30; Ramona Kowalski, Code 35; William P. Mayne, Code 40; Frank Barney, Code 45; Charlotte Braitman, Code 50.

David Newman, Code 55; Robert E. Brown, Code 65; Robert A. Weinhardt, Code 70; Earle Kirkbride, Code 75; Fran Smith, Code 84; Roy Webb and William Quicksall, MMC, Code 85; Clement T. Goodreau, HMC, Code 87 & 88; and LCDR. William West, Code 90.

Inventory Time For Outdoor Shop And Retail Store

To conduct semi-annual inventories, the Outdoor Shop will be closed all day Monday, Jan. 25, and the Navy Exchange Retail Store will be closed all day Tuesday and Wednesday, Jan. 26 and 27.



Vol. XX, No. 3 Naval Ordnance Test Station, China Lake, California Fri., Jan. 22, 1965

Navy Relief Society To Observe Its 61st Year



NAVY RELIEF WORKERS—Chaplain R. W. Odell, executive secretary, checks financial records with Carrie Reck and Toni Hoppe, chairman and co-chairman of interviewers. Watching is Lt(jg). Robert Kinsella, treasurer. Sue Byrd, sewing group chairman, and Agnes Reilly, hospitality co-chairman, check case file on needs of applicant.

Members of the local Branch of the Navy Relief Society will observe the 61st anniversary of the world-wide organization tomorrow, Jan. 23.

Since its establishment on Jan. 27, 1904, the China Lake Branch has been rendering aid in the times of need to local Navy and Marine Corps personnel and their dependents, as has its national parent organization.

Scope Broadens

The Navy Relief Society was originally incorporated in 1904 in the District of Columbia to aid indigent widows and orphans of Navy and Marine personnel. Its scope has been broadened since then.

Locally, each week, or for that matter, each day, wives of China Lake military personnel contribute many volunteer hours to the local Branch.

They serve as interviewers, sewers of layettes, knitters of garments, bookkeepers, typists, thrift shop workers, or perhaps as a driver for a distraught mother who must get a sick child to a hospital.

During 1964, the China Lake Branch aided 184 local servicemen and wives with Society funds amounting to over \$10,000 in loans and outright grants when the situation or case warranted it.

Over the past 10 years, the Society on a nationwide basis has given an annual average assistance of \$711,020 in gratuities, made loans totaling \$3,820,564, and handled 52,572 service cases annually.

The work of the Navy Relief is supported entirely by private funds, chiefly contributions from service personnel and civilian friends of the Navy and



BETTY CLASEN is NRS Chairman of Records and New Chairman of the WACOM Thrift Shop.

Mrs. Dee Hardy is honorary chairman of the volunteers while Capt. John I. Hardy, as Station Commander, is President of the China Lake Branch.

Anyone who is eligible and who wishes to apply to the Society for assistance may do so by contacting the Station Chaplain.

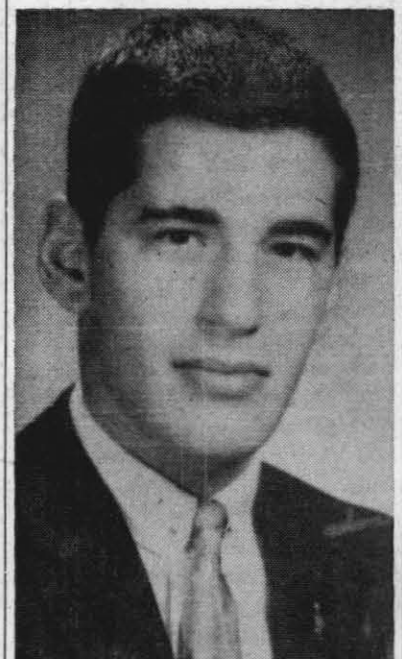
Blue Cross, Aetna Reps. Here On Jan. 27, 28, 29

Two representatives of insurance firms participating in the Government-Wide Health Benefits Program will be aboard the Station next week.

Blue Cross representative Jacques Gillard will be at the Community Center on Wednesday, Jan. 27, between the hours of 9 a.m. and 4 p.m.

Aetna representative Howard Keenan will be at the Community Center on Thursday and Friday, Jan. 28-29, from 9 a.m. to 4:30 p.m.

CROSSWORD PUZZLE section with 'ACROSS' and 'DOWN' clues and a grid.



GORDON BRAHAM, son of Mr. and Mrs. Edward Braham, 71-A Franklin, has been elected president of the Inter-Fraternity Council at the University of California at Santa Barbara. In his new post, Braham will be associated with the University's public relations department and will visit high schools throughout the state. The Burroughs High School graduate, Class of '62, was China Lake Composite Squadron 84's Civil Air Patrol exchange cadet to Peru in 1960. He is majoring in electrical engineering at Santa Barbara.

MASTER SERGEANT NOW — Wife, Dee, smiles as her husband, John A. Coryell, is presented promotion warrant to master sergeant by Capt. John I. Hardy, ComNOTS. The career Marine came to the Station in September 1958 with MCGMTU and was assigned to the Redeye Project in March 1960 when MCGMTU was deactivated.

CHAPLAIN'S MESSAGE

The Holiness Of Humor



By CHAPLAIN ROBERT W. ODELL

The Rev. James Ward of London, England used to tell his dignified parishioners: "Go around with a smile on your dial!" and they wondered why this was the Pastor's favorite motto. Do you wonder, too?

Humor is a part of good health and happiness that is often overlooked. The writer of the Book of Proverbs in the Old Testament might have been the reference that the British clergyman had in mind when Chapter 15: verse 13 of Proverbs whistles "A merry heart maketh a cheerful countenance."

A certain man was asked to talk to a company of business men about the depression. He tacked up a big sheet of white paper. Then he made a black spot on the paper with his pencil and asked a man in the front row what he saw. The man replied promptly, "A black spot." With calm and deliberate emphasis the speaker said, "Yes, there is a little black spot, but none of you saw the big sheet of white paper. That's the point of my speech!"

Laughter grants release from needless tension in our lives and ranks with tears for emotional stability. Have you really tried laughter? God gave each of us such a capacity to be of good cheer.

The stranger with the little black bag knocked at the front door of a large dilapidated house. "Come in, come in," said the father of 14 children, "and I sure hope YOU'RE THE PIANO TUNER."

The steam kettle offers a wholesome lesson of joy—even though it's up to its neck in hot water, the steam kettle continues to sing!

This then is the Holiness of Humor. Why smile? God wants us to!! Try it. Share it.



CHAPLAIN E. F. KANE (left), the station's new Catholic priest, was guest of honor at an Executive Dining Room luncheon attended by clergy of the area and other dignitaries. Principal speaker was Dr. Eric Rust, professor of Christian Philosophy at Southern Baptist Theological Seminary, Louisville, Ky., who had delivered a series of lectures here. At right is Chaplain Robert W. Odell, NOTS Senior Chaplain.

United Church Women Officers To Be Installed

The Indian Wells Valley Council of United Church Women will hold an installation service for new officers on Sunday, Jan. 24 at 2 p.m. in the East Wing of the Chapel. New elected officers are: president, Lorraine McClung; vice-president, Amy Griffin; secretary, Eldene MacLaren; and treasurer, LaVerne Brown. The officers represent churches from the area who participate in the United Church Women organization.

Following the installation service, a reception for the new officers, past presidents of United Church Women, and wives of the ministers of the participating churches will be held at the East Wing. The Women's Guild of the All Faith Chapel will be in charge of the reception.

Interested women of the community are invited to attend.

There would be fewer pedestrian patients if there were more patient pedestrians.

The Rocketeer

Official Weekly Publication of the U. S. Naval Ordnance Test Station China Lake, California. Capt. John I. Hardy, USN Station Commander. "J." Bibby Public Information Officer. Jack O. Broward Editorial Advisor. Richard Grunenberg Editor. Staff Writer: Budd Gott. Frederick L. Richards Special Assignments. Staff Photographers: Jerry Williams, PH2; Paul Seaton, AC2PH; Bryce Cocek, PH3; and Seth Rossman, PH3. DEADLINES: Tues., 4:30 p.m. Photographs: Tues., 11:30 a.m.

PROMOTIONAL OPPORTUNITIES

Present Station employees are encouraged to apply for the positions listed below. Applications should be accompanied by an up-to-date Form 58. The fact that positions are advertised here does not preclude the use of other means to fill these vacancies.

Illustrator (Technical Equipment), GS-1020-9, Code 7512—Position is located in Graphic Arts Branch, Publishing Div., Technical Information Dept. Incumbent will be a Graphic Arts Specialist, with duties including: display and exhibit design and preparation; design and production of scientific and technical illustrations, layout and design of reports, manuals, brochures, etc.; motion picture animation; responsibilities, planning and scheduling.

Required Experience: Five years experience in illustration, painting, or drawing involved in graphic presentation of objects, fact, etc. Experience should also demonstrate ability to design, layout, and illustrate a wide variety of art work, etc. (One year at GS-7 level required).

Planner and Estimator (PW Mechanical Systems), JD 236-1, Code 4554—Planning of machine shop and sheet metal work (labor and contract) in areas of research and development equipment and facilities for use in fabrication and development of propellants and explosives, missile or propulsion device housings. Initiates procurement of machine shop and sheet metal materials, and equipment. Estimates cost of labor and material requirements for all jobs falling under his trade area.

File applications for above with Betty Fowler, Bldg. 34, Rm. 26, Phone 71648.

Budget Analyst, GS-5609 or 11 (1 vacancy), Code 172—incumbent will perform duties as an analyst for providing staff budget support for two or more of the Station's more complex support departments. Assists in interpretation of Bureau guidelines and recommends guidelines for support departments. Reviews and analyzes the estimates received from the assigned departments, and submits the evaluation and recommendations to his supervisor.

File for above with Janet Thomas, Bldg. 34, Rm. 26, Phone 71577.

Physical Science Technician, GS-5, Code 5524—This position is a Physical Science Technician (Inertial Devices) in the Inertial Systems Section, Engineering Dept. The purpose is to assist the engineers and physicists of the section in the production engineering, evaluation, and testing of inertial components and devices such as gyroscopes, rollers, miniature precision bearings, and guided missile seeker systems.

The incumbent performs a variety of tests, is responsible for cleaning and lubricating miniature precision instrument bearings, to maintain, adjust, calibrate, and preserve a variety of laboratory equipment.

File applications with Dora Childers, Bldg. 34, Rm. 32, Code 457, Phone 71392. Deadline for filing is January 29.

AMENDMENT

An amendment is issued for Announcement No. NOTS-Vol-165 for Supervisory Planner and Estimator to add the following trades to the list of "Qualifying Trades": Automotive Equipment Operator, Tile and Plate Setter, and Welder.

Guild Officers Installed By Chaplain Odell

Officers of the Women's Guild of the Protestant Congregation of the All Faith Chapel were installed by Chaplain R. W. Odell last Tuesday evening.

Those who will guide the activities of the Guild for the year are:

- Leona Osborne, president; Jinx West, first vice president; Jackie Renne, second vice president; Elaine Jenne, recording secretary; Marian Sherlock, corresponding secretary, and Mary Lou Gott, treasurer.



Christian Science (Chapel Annex)—Morning Services—11 a.m. Sunday School—11 a.m. Protestant—(All Faith Chapel)—Morning Worship—8:30 and 11 a.m. Sunday School—9:30 a.m., Chapel Annexes 1, 2, 3, 4 (Days 6, 7, 8) located opposite Station Restaurant. Roman Catholic (All Faith Chapel)—Holy Mass—7, 9:30 a.m., and 5:30 p.m. Sunday. 6 a.m. Monday through Friday, 8:30 a.m. Saturday. Confessions—8 to 8:25 a.m., 6 to 8:30 p.m. Saturdays; Thursdays before First Friday, 4 to 5:30 p.m. NOIS 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, 85 King St.)—Fellowship Meeting—Sundays, 7:30 p.m. Sunday School—4:45-11:45 a.m. Dorns 7 and 8.

'DESERT PHILOSOPHER'

Tarantulas And Scorpions



By "POP" LOFINCK

They're big spiders. Not so bad — they just look bad. Pretty soon springtime will be here and you may see a string of tarantulas crossing the highway looking for a better feeding area.

They are beneficial — feed on many insects and flies and small lizards. So they are important — some authorities believe they are more beneficial than birds. So you should not kill tarantulas; they help keep the balance of nature.

BITE CAN BE PAINFUL

Altho they appear to be hairy monsters — they are in fact docile and non-aggressive — but can inflict a painful bite when molested. They have a tiny poison sack in their fang. The poison isn't strong enough to seriously affect a healthy adult.

I know a man who lets tarantulas crawl up his bare arm—and he doesn't get bit. Maybe it depends on the individual's body chemistry or orneryness. I'm not about to make that test. Nor would I suggest that YOU make it.

It is possible for a secondary infection to get into the wound. A susceptible person might develop a case of dermatitis similar to poison oak.

The fossil record of the spider indicates that it was the first animal to adapt itself to life in North America.

AND, SPEAKING OF SCORPIONS

"More deaths have occurred in Arizona from scorpion stings than from the bites and stings of all other venomous animals combined" — from Dr. Herbert L. Stahnke — Arizona State College Bookstore.

In all other parts of the United States they are no more harmful than the sting of a bee.

In this Mojave Desert area children under four are most apt to die from the effects of the venom of scorpions.

Dr. Stahnke of the Poisonous Animals Research Laboratory at Tempe has found a successful serum for this menace. Also ice treatment is a method of first aid. Scorpions are one of the oldest surviving creatures — evolved from the ancient seas.

BEWARE OF THE FOREST TYPE

The big brown scorpions you see crawling around the open desert are not as lethal as the pale skinny ones you find in the forest adjacent to the desert.

After many years of sleeping on the ground I've decided it's better to sleep on a cot.

A cot is a protection against snakes too. Old timers tell about snakes crawling into their blankets at night to get warm.

A sleeping bag is better, of course. But try to imagine a snake slithering over your neck to get into your sleeping bag!

It has been said that snakes won't bite what they can't see. That's not true. Rattlesnakes have sensitive heat detection glands and strike at heat.

HOUSING ASSIGNMENTS

DECEMBER 1964 Levels Reached

Table with columns: Type, Housing Priority Group, Hiral Date or Date of Rank. Lists assignments for various housing types like Panamint, Hill Duplex, Wasp Circle Duplex, etc.

Women Golfers Plan 'Organized Play Day' Tourn.

An "Organized Play Day" — the second Wednesday of each month — will be inaugurated soon by the China Lake Women's Golf Club. Women must be signed up for these tournaments by the preceding Sunday for drawing of names, Ann Ball reports.

Regular tournament play will continue on other Wednesdays, with tee-off time at about 9:30 a.m.

At its luncheon on Jan. 7, the Women's Golf Club presented awards to Dovie Hampton, Carolyn Kruse and Mary McDonald as weekly tourney winners, and Hazel Cooper won the putting cup.

The Tee-to-Green competition on Jan. 6 was won by Nona Turner. Winners in the Nassau Tournament on Jan. 13 were Reggie Hibbs, low gross, and Dot Gould, Jay Mueller and Thelma Cox, low net.

Last Saturday's Scotch Foursome tournament sponsored by the China Lake Women's Golf Club was won by Mary McDonald and Capt. B. L. McCreery, low gross. Tied for second place were the teams of Pauline and Bill Van Dyke and Nona and Harold Turner.

Low net first place went to Jay Mueller and Warren Murback, with Doris Cosner and Al McDonald taking second.

BOWLING NEWS

By Dick Zinke

865 Scratch

Ray Schreiber pounded out a torrid 245 game while teammate Bobby Fuller took the series posting a 576 to pace Mercury Movers to two wins and a 2682 series. Eliopulos Motors captured high game by rolling a big 981.

Women's Scratch

Patty Maxwell had an outstanding night with games of 208, 201 and cooled off a little with a 148 for a nice 557 series. The Tigerettes took team scoring honors with a 664 game and a series of 1916.

Midway

Bill Johnson locked out all opposition by bagging a fine 601 series and also had the high game for the night of 214. Team honors for the night were shared by the Pincrackers rolling an 889 while the Chillers took the series with a 2534.

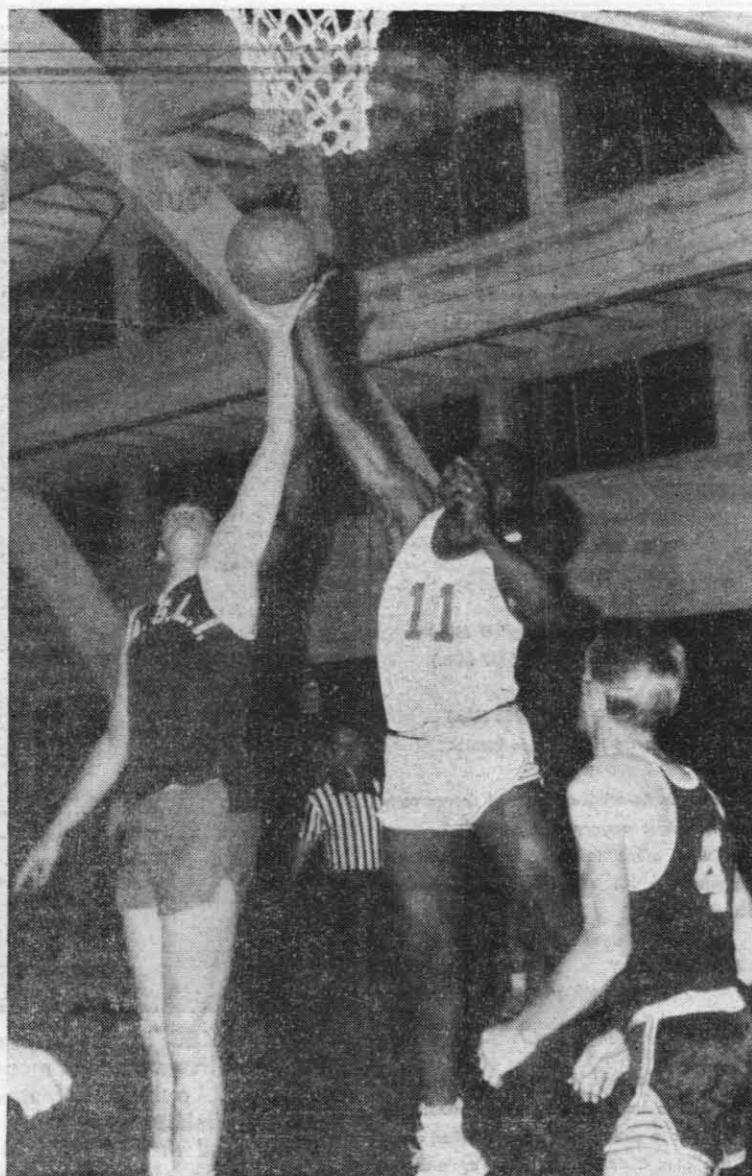
Women's Handicap

Miller's Missiles topped the scoring with a fine team effort by rolling a 932 game and a series of 2698. Jeanne Craddock again came out on top with a series of 486, but high game went to Evelyn Swader posting a nice 207.

Mixed Foursome

Last Friday night the competition for individual honors was strictly between the Zurn brothers. Gordy Zurn was tops for the men with a 593 series, but brother Tom was in hot pursuit all the way and posted a 591 series with a 214 game, however it was Don Zurn that captured high game of the night of 231.

For the gals Carol Plante rolled a 183 game and Paula Valdez rounded out the night's play with a 485 series. The Targets still lead by two games and proved their place by shooting a high game of 659 and a 1950 series.



WHO HAS THE BALL? — NAF's forward Henry Jackson (No. 11) tips ball from hands of Aero Science's Roger Short. Ball went to Ted Lane (No. 4) who scored another two points to defeat NAF, 72 to 67, making it a 3-way tie for first place.

Intramural Cagers In Three-Way Tie, Playoff Under Way

By BUDD GOTT

A fired up Aero Science team, sparked by its high scoring guard Gary Jacobs, downed NAF, 72-67, to make it a three way tie for first place in the Station's Intramural Basketball League.

The regular season ended on Jan. 14.

Tied for first place with a 12-game season record of 8 wins and 4 losses each are Aero Science, Propulsion Development, and NAF.

Aero Science's victory bounced them back from third place where they had been dumped by VX-5 in a close contest 75 to 73.

Jacobs, Aero Science's fleet guard, garnered 36 points for top scoring honors. Larry Jeffris, Roger Short and Bob Short did a good job in defending the NAF men.

NAF's Ed Bradley, who was named to the All-Star Squad last week, was high scorer for his team with 22 points. Top defense men were All Star selectees Ralph Leeper and Howard Kelley.

VX-5 Downs NOTS, 70-65

In the second game of the double header on the 14th, the VX-5 cagers found it tough going against the scrappy NOTS cellar team but managed to break through with a five point victory, 70 to 65.

Dick Aldaz, VX-5's selectee to the All-Stars, was top scorer for his team with 25 points. Jerry Schwarting and Bill Taggart turned in an outstanding job in feeding the ball to their teammates.

Down but not out, the NOTS team led by their All-Star selectee, forward Frank Bonislowski and guard Doug Wilson, gave the VX-5 quintet a battle. Bonislowski tallied 16 points while Wilson looped in 34.

Monday night Aero Science

NOTS All-Stars To Play Edwards AFB Team Here Tomorrow

Edwards Air Force Base will bring a strong cage quintet here tomorrow night to meet the NOTS Military All-Stars in an interservice fray at the Station Gym at 8 p.m.

Saturday night's game and a return go with the Air Force men at Edwards on the 28th will test the mettle of the local All-Stars before they enter Eleventh Naval District competition at Long Beach on Feb. 1.

All-Star coach LT(jg) Bob Kinsella has named as tentative starters for tomorrow night's game:

Guards Howard Kelley, 5'10" mainstay of the NAF team, and six-footer Dick Aldaz, a ball hawk for VX-5.

Forwards Darrell Johnson, a high scorer for NAF, and Jerry Schwarting, a good rebound man for NAF. Both are 6'3".

Starting center, either Bill Taggart, 6'2", of VX-5, or Ken Stewart, 6'5", of NAF. Both are good tipoff men, but Stewart may draw the start due to his height.

Coach Kinsella was quick to point out it was only a tentative lineup. "All our squad will see action. We want to see what combinations we can work out, who the best men are for alternate positions, etc." he said.

Edwards has four strong men the All-Stars will have to defend against, according to "Chuck" Mangold, former Station Recreation Director, who brings the Edwards squad here tomorrow night.

They are: Lt. Jack Royster, the 6'7" center, who is a hard man to jump against. Two speedy, shifty forwards,

Lifesaving

A course in Red Cross Senior Lifesaving will begin on Tuesday night, Jan. 26 at the Station pool.

It will meet every Tuesday and Thursday from 7:30 to 9:30 p.m.

Sara Valdiva will teach the course.

Those interested in taking the course are urged to attend the first class on Jan. 26 or contact Jan Hays, Red Cross water safety chairman, at Ext. 725412.

Second Game Playoff

Wednesday night Propulsion Development, smarting from their 83-51 defeat by Aero Science on Tuesday, came back to trample NAF, 82-60, in the second game of the playoff.

Top three scorers were Bill Ball, 20; John Ulrich, 17, and Doug Kinney, 15. Newt Green was keyman in feeding the ball to his teammates in their attack.

NAF's usually high scorers Howard Kelley, D. R. Johnson, and Ed Bradley were held to 14, 13, 12 points each. The inability of the NAF players to hit the basket on free throws contributed to their defeat.



BEAUTY AND TALENT — Mary Ann Mobley, Miss America of 1959, proves that beauty and talent can be combined. She's currently making her first film in Hollywood.

SPORTS QUIZ

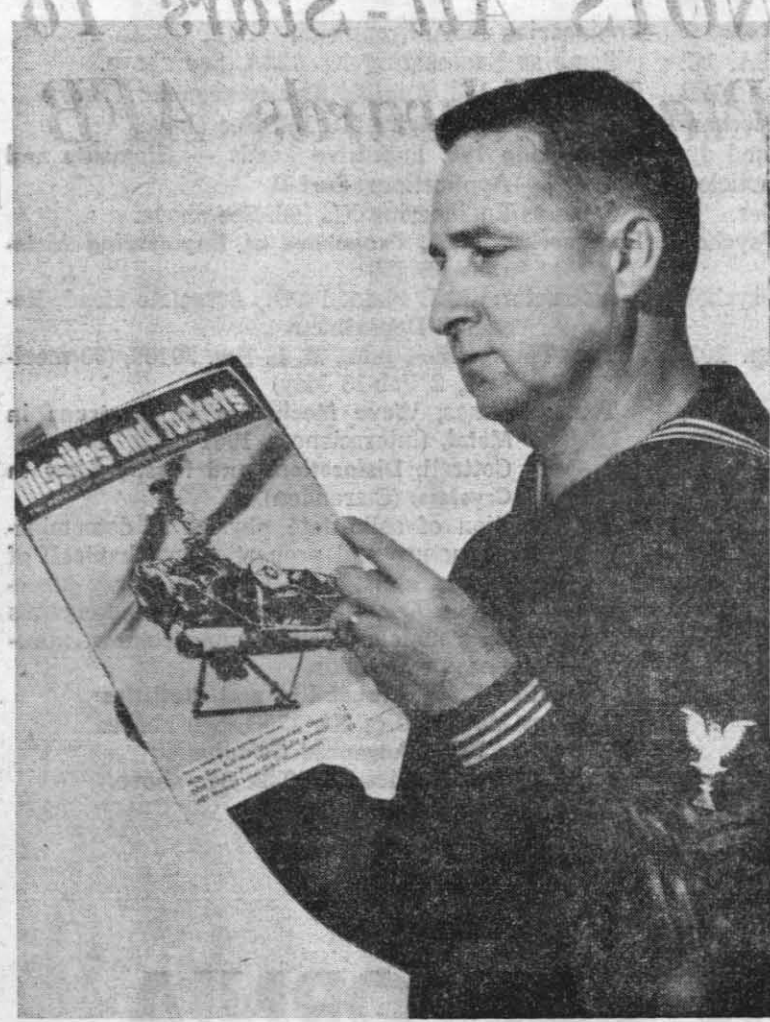
- 1. Who holds the "fastest service" record of any lawn tennis player? 2. In swimming, what is the dive with the lowest tariff (degree of difficulty)? 3. When, where and by whom was snooker originated? 4. In January 1960, a four-man U.S. Army team set what kind of record at St. Moritz? 5. Two Swedish wrestlers have won three Olympic titles each. Who are they?

Answers to Quiz

- 1. In 1935, Lester Stofren, a U.S. Davis Cup player, drove a ball at a measured speed of 131 1/2 mph. 2. The dive with the lowest tariff is the "inward dive with back" from the five meter board. 3. Colonel Sir Neville Chamberlain originated snooker as a variation of "black pool" in Jub-bupore, India, in 1875. 4. The Army bobbed team covered the one mile course in 76.4 seconds. 5. The "grunt and groan" are Carl Westergren (1932), 24.8 and Lar Johansson (1936), 24.3.

Navy-NASA Cooperate In Man-to-Moon Work

The Navy is cooperating with the National Aeronautics and Space Administration (NASA) in support of efforts to land a man on the moon, having turned over 40 acres of land at Seal Beach, Calif., for the construction of facilities for the manufacture and testing of the second, or S-II stage of the Saturn V launch vehicle.



RALPH J. ROBEY, PH2

Local Photog's Picture Makes Magazine Cover

Ralph J. Robey, PH2, photographer in the Pasadena Public Information Office, scans his complimentary copy of Missiles and Rockets Magazine, Dec. 21, 1964 issue. Peeking inside the magazine was merely a nice gesture on Ralph's part, for he's convinced, "You can tell a book by its cover," and particularly this cover since the picture of the drone helicopter is a product of Ralph's fine photography.

The drone helicopter is shown launching an MK 46-0 torpedo on a sea operations test program off Long Beach, Calif. Ralph was assigned to the project and came up with the most widely used photograph throughout the MK 46-0 press release, appearing in several magazines and newspapers. Ralph has been with NOTS Pasadena since Jan. 1964, accomplishing both publicity and technical photography assignments.

NOTS Pasadena

VIRGINIA E. LIBBY — EXT. 638

Navy League To Honor Pasadena Naval Officers

The Pasadena Council of the Navy League of the United States will honor the three top Pasadena naval officers and their wives at a reception and dinner party to be held in the Mirror Room of the Huntington Sheraton Hotel tomorrow. Honored guests will include CAPT. and Mrs. G. H. Lowe, CAPT. and Mrs. R. J. Trauger, and CDR. John P. Johnson. In addition to the cocktail and dinner party, a program has been arranged by Giles Hall, President of the Pasadena Council, which will feature the Color Guard of the Sea Cadets, and a presentation of the "Devil Pups."



ENSIGN DAVID A. MATHER



CWO-4 A. H. ASSEIER

Mather Relieves Asseier in Supply Post

Reporting to NOTS Pasadena is Ensign David A. Mather who will relieve CWO-4 A. H. Asseier as Assistant to the Associate Director of Supply. With a Bachelor of Science Degree in Industrial Engineering from Iowa State University in Ames, Iowa, Ensign Mather received his commission in July 1964 through the NROTC Program. Previous to NOTS he completed training at the Navy Supply Corps School in Athens, Georgia. Originally from New York, Asseier entered the service in 1939 and served during WWII and the Korean Conflict. He will assume duties as Assistant to the Supply Officer.



RUEL CAMERON

Cameron Heads '65 FSJC-NHA Drive

Ruel Cameron, Head of the Budget Branch, UOD, has been selected as chairman of the annual Federal Service Joint Crusade-National Health Agencies campaign scheduled to run from February 1-15 at NOTS Pasadena. In addition to the usual donation appeal on station, plans are being made for a dinner-dance with proceeds going to the FSJC-NHA campaign.

Battling Bowlers

The see-saw battle between the Alley Kats and the Quiet Five hinged on a half-game margin again as the Five took four from the Kats in the NOTS Wednesday night bowling league. Going into the 17th week of play, the Kats had a won-lost record of 45.5-22.5, while the not-so-silent ones stood at 45-23.

Thus league play has evolved into a race between these two teams for top honors, with the rest of the field beginning to spread out. The third-place Side Winders lag a full seven games behind the Five, maintaining a won-lost record of 38-30. High scores for the week were as follows: team series, Quiet Five, 3012; team game El Toros, 1022; men's series, Len Seimeyn, 653; women's series, Betty Halminski, 613; men's game, Hal Byall, 246; and women's game, Jane Gaghagen, 230.



THE SMILES of Dom Veronda, Margaret (Maggie) Trotter and D. J. Wilcox (l-r) denote a happy occasion which indeed it was when Dom and Maggie were presented with Quality Step Increases. Wilcox, Head, Underwater Ordnance Department, offers congratulations to the awardees. Dom, Head of Materials and Mechanical Engineering Branch, P8093, has been with NOTS 14 years. He has previously received a Quality Step Increase and two Superior Accomplishment Awards. Maggie was rewarded for her outstanding performance of duties in the library, where she has been employed since 1956.

Aetna Agent Visits Here

A representative from the Aetna Casualty and Surety Company (Indemnity Benefit Plan) will be available in the Personnel Office, Building 10, on Wednesday, Jan. 27, from 1:30 to 4:30 p.m. Employees who wish to discuss any problems concerning the plan may contact Carole Ostrander, Extension 493, for an appointment. The form must be completed and filed in the Personnel Office no later than Feb. 15, 1965.



DAVID W. ANDERSON (center) receives congratulations from J. H. Jennison and Capt. G. H. Lowe on completion of 30 years service.

Thirty Years Federal Service Completed By Dave Anderson

On completion of 30 years federal service, David W. Anderson, Head, Development Branch in the Product Engineering Division, UOD, was presented with a lapel pin denoting his length of service. Anderson entered government service in 1933 with the Bureau of Reclamation. After four years, he transferred to the U.S. Engineer Office where he remained until joining the Navy in 1940. Upon his discharge in 1950, he joined NOTS.

PROMOTIONAL OPPORTUNITIES

To apply for vacancies, contact Nancy Reardon, Pasadena Personnel Division, Extension 492. A current SF-58 must be submitted when applying. Hearing Plane Operator (Large), hourly salary range: \$3.06 to \$3.32; Code 77151. DUTY STATION: San Clemente Island. Operates, repairs, and maintains various types of steam and air generating plants including diversified types of high and low pressure boilers and accessories. Work consists of making inspections, adjusting valves and levers, observing meters and gauges and making minor operating repairs. Starts, stops and controls speed of equipment and assures proper water levels are maintained in boilers.



AOD 30-YEAR MAN — Dr. Newt Ward, Head of the Aviation Ordnance Department, presents Oliver A. Wilkerson (right) 30-year Federal Service pin. His combined service includes three tours of active military duty. He is a veteran of WW II and the Korean Conflict. First here in 1949, he came back to NOTS in 1955 after retiring from the Navy as a Chief Yeoman.

Slate 'Open Season' For Health Programs

An unrestricted "open season" in the Federal Employees Health Benefits Program is scheduled between February 1 through 15, Austin Ross, Head of the Employee-Management Relations Division, announced this week. During this period eligible employees who are not enrolled in a Federal Health Plan may do so. Employees who are already members may make the following changes in their enrollments:

- From one plan to another.
- From one option to another in the same plan or a different plan.
- From self only to self and family, or the reverse.

Last October, all enrolled employees were given an up-to-date copy of Standard Form 2809A (The Federal Employees Health Benefits Program), dated November 1964, and a copy of Pamphlet BRI 41-117 (Information About Changes Effective November 1964).

As was explained then, Pamphlet BRI 41-117, along with the member's November 1963 brochure describing the member's plan, gives the member a complete and up-to-date statement of the benefits and cost of the plan.

In addition, the Standard Form 2809A gives the employee a current summary of general information about the Health Benefits Program.

No New Brochures - New brochures will not be distributed for this "open season." However, each employee will be given a leaflet informing him of the "open season" and telling how to change Health Benefits Registration if he wishes.

All plans which participate in the program will be listed in the leaflet and any employee who is considering a change and is interested in seeing the brochures of a plan other than the one in which he is enrolled should contact his department office.

Any employee who does not want to change his registration need take no action. His present registration will remain in effect.

Any employee who is not now enrolled and wishes to enroll, or who is enrolled and wishes to change his enrollment, must go to the Personnel Service Division for his Department and complete a new Standard Form 2809. The form must be completed and filed in the Personnel Office no later than Feb. 15, 1965.

Museum to Hold Annual Meeting Tuesday Evening

The annual meeting for all members of the Maturango Museum will be held next Tuesday evening, Jan. 26, at the Hideaway Restaurant in Ridgecrest, starting at 7 p.m. Special tribute to Life members of the Museum will be paid by Alice Hirsch, president of the board of trustees, and summations of the museum's accomplishments will be delivered by Director K. H. Robinson and Curator Sylvia Winslow.

Included in the business portion of the meeting will be the election of three trustees to fill vacancies. Candidates proposed by the nominating committee are Albert S. Gould (incumbent), Mrs. John I. Hardy (incumbent), Aaron Jones, Paul McKenry and Dr. Pierre St. Amand. Nominations from the floor also are eligible.

The dinner menu will be table d'hote turkey at \$2.95 per plate, including tax and tip. Reservations may be made by calling Mrs. Duane Mack, Ext. 725582, or Mrs. George Schneider, FR 5-4291.

Inadvertently, the Museum Newsletter said the annual meeting would be held on Thursday. It should have read Tuesday, the 26th.

To Fleet Reserve



PIPED ASHORE after two decades of Navy service, William C. Coakley, CS1, was transferred to Fleet Reserve Jan. 15, in brief ceremonies. Attached locally to the Commissary Store, Coakley had reported to China Lake in early 1963.



TRIPLE RE-ENLISTMENT occurred at VX-5 this week when Cdr. Jack M. Manherz, CO, (left) gave oaths to (from left) Charles K. Dugger, AT1; David G. Murphy, AO2, and Melvin D. Edwards, AO2. Local squadron currently leads all China Lake units in re-enlistment for 1965. —Photo by Gerald G. Burgess, PH2, VX-5

Benny Suggs Save \$35 Million in First FY Quarter

Washington — About \$35 million was saved in the first quarter of FY65 through adopted suggestions of service personnel and civilian employees, AFPS reports.

The Air Force reported an estimated net savings of approximately \$26 million, the Army reported nearly \$5 million saved and the Navy figure was more than \$3 million.

Two Code 45 Men To Deliver AIAA Paper

Two Propulsion Development Dept. aerospace engineers, Richard D. Fulmer and David P. Wirtz (Code 451), have been selected to deliver a paper at the American Institute of Aeronautics and Astronauts' Second Aerospace Sciences Meeting in New York City on Monday, Jan. 25.

Newcomers to Hospital and VX-5



LT. MARY C. LUKACS joins the Station Hospital's nursing staff. She reports from the U. S. Naval Hospital, Yokosuka, Japan. A graduate of St. Joseph's School of Nursing, Lancaster, Pa., she entered the Nurse Corps in June, 1959. Her overseas duty has also included Guam.



LT. JOHN H. MARTIN JR. (DC), formerly attached to Dental Clinic at Camp Pendleton, Calif., reported to NOTS recently to serve as Assistant Dental Officer at Station Hospital. New dentist and wife, Mary Ellen, will reside at 402A Forrestal.



ENSIGN MARVIN H. CLARK, newly assigned to Administrative Department at VX-5, reported from Officer Candidate School, following 16-week course. A graduate of Bowling Green State University, where he earned a BS in Personnel, the new officer is a native of Ashtabula, Ohio.

COURSE SCHEDULE Spring 1965

● UNIVERSITY OF CALIFORNIA AT LOS ANGELES ● UNIVERSITY OF SOUTHERN CALIFORNIA
● BAKERSFIELD COLLEGE, EVENING DIVISION

PREFACE

This Course Schedule provides detailed information about the evening classes open to NOTS employees at China Lake for the Spring 1965 semester. Additional copies of this Course Schedule may be obtained from Department Offices or your Department's Personnel Management Advisor.

The Schedule for the Day Classes for the Spring 1965 semester will be published at a later date.

RAYMOND A. HARRISON,
Head, Personnel Department

U.C.L.A. SCHEDULE OF CLASSES

REGISTRATION. Registration will be held 0800-1200, Mon-Fri, 25 January through 5 February in the Education Office, Room 1004, Michelson Laboratory. Registration fees are payable by check or money order at the time of registration. The amount of the fee is listed after each course. Please note that it has increased this semester.

GRADUATE STUDENTS IN ENGINEERING. The Department of Engineering, UCLA, requires all graduate students to complete 6 units of course work every semester until they have fulfilled the unit requirements for the M.S. Any student who completes less than 6 units is obliged to withdraw from the University, and must reapply for readmission if he wishes to continue at a later date.

COUNSELING. Limited counseling is available regularly in the Education Office, Room 1004, Michelson Laboratory, during office hours, 0800-1200. In addition, Prof. Wm. D. Van Vorst, UCLA adviser to NOTS engineering graduate students, is in the office one day per month. Appointments should be made through the UCLA representative, Room 1004.

USE OF OFFICIAL TIME AND/OR TUITION REFUND ELIGIBILITY. If an employee's supervisor certifies that the training is relevant to his present or projected work assignment, the employee may do one of the following: (1) If carrying 6 or more units, request permission via his departmental channels to use official time to study not to exceed 6 hours per week for 15 weeks; (2) If carrying 6 or more units and authorized to use 3 or less hours of official time to study for one 3-unit course, submit one copy of NOTS Course Enrollment and/or Tuition Refund Certification 11ND NOTS 12410/28 prior to the first class meeting to establish tuition refund eligibility for a second 3-unit course; or (3) Submit one copy of same form to establish tuition refund eligibility for each course prior to the first class meeting.

REFUNDS. Refunds will be made under the following conditions if tuition refund eligibility has been established: (1) Successful completion (a grade of "C" or higher) of a course; (2) Withdrawals prior to the second meeting of class and presenting admission form to the Education Office; or (3) Withdrawals after second meeting and before fourth meeting — tuition refund minus \$5 will be made by the University. **WITHDRAWALS AND AUDITING.** The last day for graduate students to drop courses without penalty of failure is 19 April 1965. Petition forms are available in the Education Office. The last day for extension students to audit a course (no credit) is the first meeting after the mid-term. The instructor will request each student to indicate his desired status on the mid-term grade report. Graduate students who have dropped a course and extension students who are auditing a course may continue to attend class without the obligation of submitting homework or taking examinations.

TEXTBOOKS. Each student is responsible for purchasing his textbooks. Order blanks are available in the Education Office.

ACCESS TO MICHELSON LABORATORY. Students who do not have access to the Lab should register on or before 28 January so that they may be cleared for admittance to classrooms before the semester begins. Students unable to complete registration by 28

January should notify the Education Office giving full name, mailing address, citizenship, and the name of the courses to be taken. NO UNCLEARED STUDENT CAN BE GUARANTEED ADMITTANCE TO THE LAB CLASSROOMS UNLESS HIS REGISTRATION OR NOTICE OF INTENT TO REGISTER IS RECEIVED IN THE EDUCATION OFFICE BY 28 JANUARY 1965.

PREREQUISITES. The titles of courses listed as prerequisites for the various courses in the Extension and Graduate Program are as follows:

- Engineering 103A, Elementary Fluid Mechanics
- Engineering 105B, Engineering Thermodynamics
- Engineering 117A, Applied Electromagnetic Theory
- Engineering 119A, Circuit Analysing Using Transform Methods
- Mathematics 4B, Analytic Geometry and Calculus, Fourth Course
- Mathematics 11A, Introduction to the Calculus
- Mathematics 11B, Calculus and Analytic Geometry
- Mathematics 12A, Linear Algebra
- Mathematics 12B, Calculus and Analytic Geometry
- Mathematics 108, Linear Algebra
- Mathematics 110C, Advanced Engineering Mathematics
- Mathematics 119A, Differential Equations
- Mathematics 120A, Probability and Statistics
- Physics 1A, General Physics: Mechanics of Solids
- Physics 1B, General Physics: Mechanics of Fluid, Heat, and Sound
- Physics 1C, General Physics: Electricity and Magnetism
- Physics 1D, General Physics: Light and Modern Physics
- Physics 2A, General Physics: Mechanics, Heat, and Sound
- Physics 2B, General Physics: Electricity, Magnetism, and Light

EXTENSION PROGRAM SCHEDULE. Courses listed on the following pages are open to all students who satisfy the prerequisites.

*Starred courses may, by subsequent petition, be offered toward the satisfaction of the unit requirement for the master's degree up to a maximum of 6 units. **Engineering XL 105A, Engineering Thermodynamics** (3) \$50

Instructor: C. L. Spindler, M.S., Aerospace Research Engineer, Propulsion Development Department

Tues-Thurs, 6:30-8 p.m., M. L. Rm. 20108 (30 meetings, 2 Feb-13 May)

Prerequisite: Consent of instructor
Text: Lee and Sears, **Thermodynamics**, (Addison-Wesley)

Introduction to energy, heat, work, entropy, temperature, and states of matter. Zeroth, first, and second laws of thermodynamics. Processes involving closed systems. Graphical representation of thermodynamic processes. Ideal gases. Equations of state. Carnot theorem. Properties of pure substances. State diagrams.

***Engineering XL 119B, Passive Network Systems** (3) \$50

Instructor: M. C. Creusere, M.A., Head, Armament Control Systems Branch, Aviation Ordnance Department

Mon-Wed, 4:30-6 p.m., Training Bldg., Rm. 211 (30 meetings, 1 Feb-17 May)

Prerequisites: Engr. 119A or 181A

Text: Crawford, **Introduction to Modern Network Synthesis**, (Harcourt, Brace, & World)

A comprehensive survey of modern techniques of driving point transfer function synthesis. Introduction to active network synthesis and to approximation methods.

***Engineering XL 153A, Propulsion** (3) \$50

Instructor: R. J. Zabelka, Ph.D., Aero Research Engineer, Propulsion Development Department

Mon-Wed, 4:30-6 p.m., Training Bldg., Rm. 205 (30 meetings, 1 Feb-17 May)

Prerequisites: Engr. 103A, 105B
Text: Zucrow, **Aircraft and Missile Propulsion**, (Wiley), 1960

Thermodynamic properties of gases. Flows in channels, nozzles and rocket motors. Power plant cycle analysis. The turbojet engine and its variants. Ramjets and pulse jets. Combustion. Aerodynamic design elements of compressors and turbines. Elements of aircraft and rocket performance.

***Engineering XL 198, Applied Electromagnetic Theory** (3) \$50

Instructor: R. G. S. Sewell, M.A., Consultant, Air-to-Surface Weapons Division, Weapons Development Department

Tues-Thurs, 4:30-6 p.m., Training Bldg., Rm. 203 (30 meetings, 2 Feb-13 May)

Prerequisite: Engr. 117A
Text: Harrington, **Time Harmonic Electromagnetic Fields**, (McGraw-Hill)

Behavior of electromagnetic radiation, particularly in the microwave range. Guided waves, cavity resonators, antennas and radiation.

***Engineering XL 198, Impulsive Loads — Elements and Applications, Part II** (3) \$50

Instructor: John Pearson, M.S., Head, Deonation Physics Group, Research Department

Mon-Wed, 4:30-6 p.m., M. L. Rm. 20108 (30 meetings, 1 Feb-17 May)

Prerequisite: Engr. 198, Part I or Consent of Instructor
Text: Rinehart and Pearson, **Explosive Working of Metals**, (Macmillan)

Part II of a course dealing with the nature of impulsive loads (such as are produced by detonating explosives and impacting projectiles); the interaction of such loads with surrounding media; the behavior of materials and the dynamics of systems under impulsive loads; techniques of study; and industrial and military applications.

Mathematics XL 110B, Advanced Engineering Mathematics (2) \$40

Instructor: W. B. Stelwagon, M.A., Mathematician, Research Dept.

Mon-Wed, 4:30-6pm, Training Bldg., Rm. 203, (20 meetings, 1 Feb-12 Apr)

Prerequisite: Math 4B
Text: Sokolnikoff & Redheffer, **Mathematics of Physics and Modern Engineering**, (McGraw-Hill)

Ordinary differential equations and orthogonal functions, partial differential equations, line integrals, Green's theorems, vector analysis, solution of equations.

***Mathematics XL 120B, Probability and Statistics** (3) \$50

Instructor: E. A. Fay, Ph.D., Mathematician, Research Department

Tues-Thurs, 4:30-6 p.m., M. L. Conf. Rm. C, (30 meetings, 2 Feb-13 May)

Prerequisite: Math. 120A or Consent of Instructor
Text: Hogg & Craig, **Introduction to Mathematical Statistics**, (Macmillan)

Basic distributions of statistics, sampling theory, estimation, hypothesis testing.

***Mathematics XL 122B, Advanced Calculus** (3) \$50

Instructor: W. L. Johnson, Ph.D., Mathematical Statistician, Test Dept.

Tues-Thurs, 4:30-6 p.m., M. L. Rm. 1000, (30 meetings, 2 Feb-13 May)

Prerequisites: Math. 108, or 110C, or 119A
Text: Taylor, **Advanced Calculus**, (Ginn & Co.)

Fundamentals of calculus from a more advanced point of view. The real number system; continuous functions. General theory and application of partial differentiation. Implicit function theorems. Vector fields. Line and surface integrals. Point set theory. Theory of integration. Infinite series. Uniform convergence. Improper integrals.

***Physics XL 105, Analytical Mechanics** (3) \$50

Instructor: A. G. Hoyem, Ph.D., Head, Aircraft Projects Division, Aviation Ordnance Department

Mon-Wed, 4:30-6 p.m., M. L. Rm. 1000, (30 meetings, 1 Feb-17 May)

Prerequisites: Physics 1A, 1B, 1C, 1D, or 2A, 1C, 1D, or 2A-2B; Math 11A, 11B, 12A, and 12B
Text: Becker, **Introduction to Theoretical Mechanics**, (McGraw-Hill) The kinematics and dynamics (statics and kinetics) of particles, systems of particles, and rigid bodies.

Measurements of central tendency, variability and correlations. Applications of statistical inference to research in psychology. Reliability and validity of psychological tests and measurements.

GRADUATE PROGRAM SCHEDULE. The 100 series courses listed below are open to all students who have graduate status at UCLA. Courses in the 200 series are generally open only to graduate students who have rectified all grade-point deficiencies.

Engineering 119B, Passive Network Systems Same as Engineering XL 119B. See above.

Engineering 153A, Propulsion Same as Engineering XL 153A. See above.

Engineering 198, Applied Electromagnetic Theory Same as Engineering XL 198. See above.

Engineering 198, Impulsive Loads — Elements and Applications, Part II Same as Engineering XL 198. See above.

Engineering 245A, Properties of Engineering Materials (3) \$50

Instructor: G. J. Plain, Ph.D., Associate Head, Research Department

Tues-Thurs, 4:30-6 p.m., M. L. Rm. 20108, (30 meetings, 2 Feb-13 May)

Texts: Raimes, **Wave Mechanics of Electrons in Metal**, (Interscience), 1961
Cottrell, **Dislocations and Plastic Flow in Crystals**, (Clarendon)

Application of solid-state physics to determination of structure and properties (mechanical) of engineering materials. Elements of X-ray structure analysis. Cohesive strength of ionic crystals and simple metals. Lattice imperfections, non-elastic behavior of solids.

Mathematics 120B, Probability and Statistics Same as Mathematics XL 120B. See above.

Mathematics 122B, Advanced Calculus Same as Mathematics XL 122B. See above.

Psychology XL 105, Elementary Statistics in Psychology (3) \$45

Instructor: F. Friedlander, Ph.D., Research Psychologist, Central Staff

Tues-Thurs, 7:30-9 p.m., Training Bldg., Rm. 203, (30 meetings, 2 Feb-13 May)

Texts: Wallis & Roberts, **Statistics, A New Approach**, (Free Press) McCollough & Van Atta, **Statistical Concepts**, (McGraw-Hill)

Measures of central tendency, variability and correlations. Applications of statistical inference to research in psychology. Reliability and validity of psychological tests and measurements.

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Application of solid-state physics to determination of structure and properties (mechanical) of engineering materials. Elements of X-ray structure analysis. Cohesive strength of ionic crystals and simple metals. Lattice imperfections, non-elastic behavior of solids.

Mathematics 120B, Probability and Statistics Same as Mathematics XL 120B. See above.

Mathematics 122B, Advanced Calculus Same as Mathematics XL 122B. See above.

Psychology XL 105, Elementary Statistics in Psychology (3) \$45

Instructor: F. Friedlander, Ph.D., Research Psychologist, Central Staff

Tues-Thurs, 7:30-9 p.m., Training Bldg., Rm. 203, (30 meetings, 2 Feb-13 May)

Texts: Wallis & Roberts, **Statistics, A New Approach**, (Free Press) McCollough & Van Atta, **Statistical Concepts**, (McGraw-Hill)

Measures of central tendency, variability and correlations. Applications of statistical inference to research in psychology. Reliability and validity of psychological tests and measurements.

GRADUATE PROGRAM SCHEDULE. The 100 series courses listed below are open to all students who have graduate status at UCLA. Courses in the 200 series are generally open only to graduate students who have rectified all grade-point deficiencies.

Engineering 119B, Passive Network Systems Same as Engineering XL 119B. See above.

Engineering 153A, Propulsion Same as Engineering XL 153A. See above.

Engineering 198, Applied Electromagnetic Theory Same as Engineering XL 198. See above.

Engineering 198, Impulsive Loads — Elements and Applications, Part II Same as Engineering XL 198. See above.

Engineering 245A, Properties of Engineering Materials (3) \$50

Instructor: G. J. Plain, Ph.D., Associate Head, Research Department

Tues-Thurs, 4:30-6 p.m., M. L. Rm. 20108, (30 meetings, 2 Feb-13 May)

Texts: Raimes, **Wave Mechanics of Electrons in Metal**, (Interscience), 1961
Cottrell, **Dislocations and Plastic Flow in Crystals**, (Clarendon)

Application of solid-state physics to determination of structure and properties (mechanical) of engineering materials. Elements of X-ray structure analysis. Cohesive strength of ionic crystals and simple metals. Lattice imperfections, non-elastic behavior of solids.

Mathematics 120B, Probability and Statistics Same as Mathematics XL 120B. See above.

Mathematics 122B, Advanced Calculus Same as Mathematics XL 122B. See