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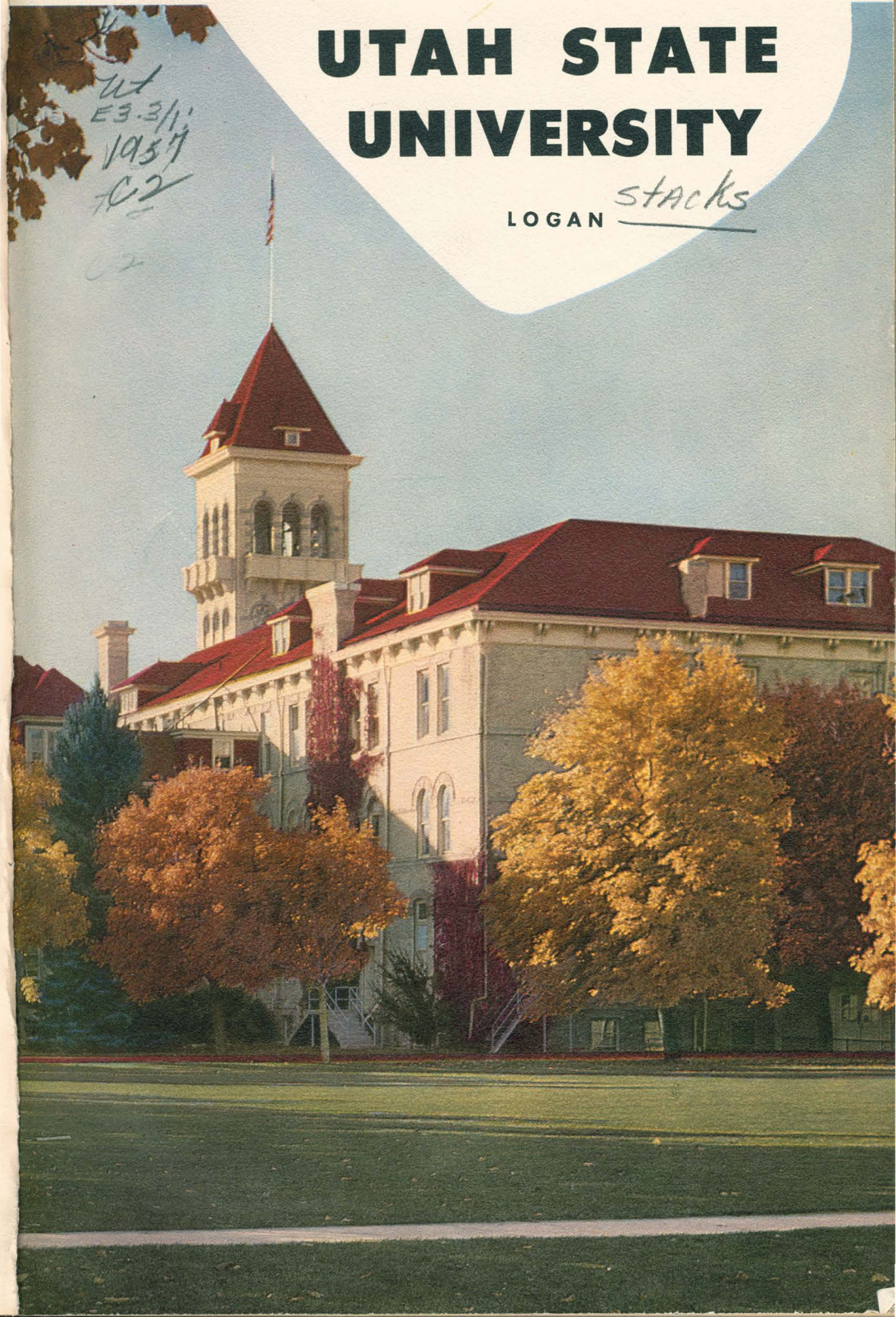
1957 SUMMER BULLETIN

UTAH STATE UNIVERSITY

LOGAN

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Old Juniper



Horseback riding to White Pine Lake

The Grand Tetons as seen on the Yellowstone Ranger Hike





Visiting Southern Utah's Wonderland

Boating and fishing at beautiful Bear Lake





*A
Message
from
the
President*

Utah State University is proud to again present a high quality program to meet the needs of its summer session students. Since the 1920's when the University first introduced the national summer school, many of the eminent leaders in American education have been members of our visiting faculty, and speakers of international renown have participated in the summer lecture series.

In checking through the 1957 catalog you will find that there are opportunities to pursue graduate work in a number of fields. Provision has also been made in the course offerings to meet the certificate requirements of Utah and the surrounding states in a variety of educational services such as administration, teaching, guidance, and special education. Students who are beginning college and those who are continuing their work on the undergraduate level will find an adequate list of classes to meet their needs. Short courses, institutes and workshops are being conducted in a number of areas to meet the needs of those who wish to obtain specialized work in a brief period of time.

The campus at Logan is considered to be one of the truly beautiful campuses in America. Here you will work and play in an atmosphere of friendship and congeniality. We invite you to spend your summer in beautiful cool Cache Valley where you can combine study and recreation at a great state university under the tutelage of a distinguished faculty.

Larry Chase

Utah State University



BULLETIN

Summer School 1957

June 10 — August 16

FIRST SESSION

June 10 — July 12

SECOND SESSION

July 15 — August 16

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WHEN YOU COME TO REGISTER

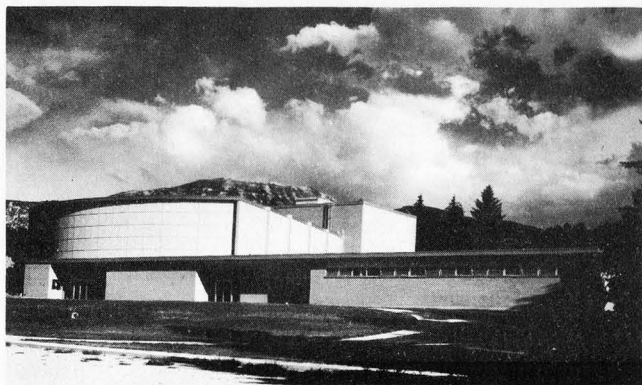
*Our New Name

Effective July 1, 1957, name changed from Utah State Agricultural College to Utah State University of Agriculture and Applied Science by legislative action March 8, 1957.

CREDIT

Cover Photo: Professor H. Reuben Reynolds
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College Bulletins, Published by Utah State Agricultural College, at Logan, Utah, Issued Monthly. Vol. 57, No. 3, March 1957. Entered as second class matter September 10, 1918, at the Post Office at Logan, Utah, under act of August 24, 1912. Acceptance for mailing at special rate of postage provided in Section 1103, Act of October 3, 1917. Authorized August 22, 1918.



VACATION LAND OF THE WEST
COLLEGE OF SOUTHERN UTAH
SUMMER SESSION — JUNE 3 TO JULY 12, 1957

- Education courses for state certification
- Housing for everyone in campus dormitories
- Courses for undergraduates
- Educational workshops
- Visiting faculty members who are prominent educators
- CSU is situated or located in the heart of six national parks and monuments. Tours of local scenic wonders as well as extended sightseeing trips are part of our six-week summer session.

For further information write to:
JOSEPH M. FILLERUP, Head
Division of Education



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NOYES BUILDING OF SNOW COLLEGE
Ephraim, Utah

The Summer School at Snow College is an attractive feature of the educational program of the institution. Courses offered are confined to the needs of students in the general area served by the institution. The Summer School program is especially attractive since it provides opportunity for close association with other students and intimate educational contacts with the instructors.

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Summer School Fees

The College reserves the right to alter any of these charges without notice.

Total fees first session only (average)	\$34.00
Total fees second session only (average)	33.00
Total fees both sessions (average)	53.00

DISTRIBUTED AS FOLLOWS:

Registration for Summer Quarter	\$10.00
Tuition for Summer Quarter	33.00
Tuition for first session only	17.00
Tuition for second session only	17.00
Activity Fee (Required of all students enrolling for 5 or more credits)	3.00
Activity Fee—Second Session only	2.00
(Required of all students enrolling for 5 or more credits)	
Health Fee	1.00
Special Students — Registration Fee	10.00
Plus \$3.00 per credit hour (Maximum 5 hrs.)	
Auditor's Fee (per course)	10.00
(Does not apply to regularly registered students who may secure visitor's permits from Registrar's Office.)	
P.E. 176—Camping Trip Packing	8.00
Equipment Rental	8.00
Transportation	10.00
Forestry 96, 97; Range 98; Wildlife 99: \$5.00 lab fee in each course.	
Music Clinic (non-credit)	7.50
Graduation Fee	10.00
Social Work Certificate	5.00
Master's Degree Fee for binding and proofing Thesis	5.00
Qualifying Examination in Graduate School:	
1 part	5.00
2 parts	6.00
Building Fee (First Session)	3.00
(Second Session)	3.00
(Remitted to students who have paid the building fee for three preceding quarters.)	
Excess breakage or loss as determined by departments must be paid at Cashier Office before credit will be released.	
Private instruction in Speech—12 and 112—per lesson	1.75
Music—Individual Instruction with members of the College staff:	
1½ credits	\$25.00
3 credits	50.00
Individual instruction with additional authorized teachers (as arranged for with the Department of Music) is registered for at the college and given like credit, but paid for by private arrangement with the teacher concerned.	
Practice Fees:	
Practice room with Piano, 1 hour per day per Quarter	\$ 2.50
Practice room without Piano, 1 hour per day per Quarter	1.75
Organ, 1 hour per day per Quarter	5.00
Enrollment in demonstration school and workshop for handicapped children, per child	5.00

All fees paid, with the exception of the \$10.00 registration fee, may be refunded to any student in residence who withdraws from school before the end of the third week of either session, in proportion that the number of instructional weeks, subsequent to withdrawal bears to the number of instructional weeks in the period covered by the fees paid.

Utah State University

Utah State University was established in 1888 under the provisions of the Land-Grant College Act. It serves the people of Utah and the intermountain west through three main divisions: (1) the instructional services of the university, (2) The Agricultural Experiment Station, and (3) the Cooperation Extension Service. The instructional services are organized in seven schools: Agriculture, Business and Social Sciences, Education, Engineering and Technology, Forestry, Range and Wildlife Management, Home and Family Living, and Humanities and Sciences. The Graduate School and the Summer School are also organized to render special services. Through all these schools, it is the policy of the university to make available to students opportunities for a broad program of collegiate education, including vocational, technical, scientific and liberal education. The object is to foster all that makes right living, good citizenship, vocational efficiency, and general culture. Fundamentally, the university has always considered the main function of education in its broadest sense to be the preservation and improvement of the democratic way of life.

All departments offer curricula leading to the B.S. degree; many offer the M.S.; and some the Ph.D. or the Ed.D.

The university is located one mile east of the center of Logan on the brow of a hill overlooking Cache Valley. One mile still further to the east is the entrance to scenic Logan Canyon through which Highway 89 leads onto Bear Lake and points east, or north through Wyoming to the South entrance of Yellowstone Park.

With its population of sixteen thousand, Logan serves as a delightful center of student life. The climate in the summer time seldom becomes oppressively warm, while the evening canyon breeze makes summer nights especially comfortable. Student enrollment at the university during the regular academic year has in recent years exceeded five thousand. Enrollment in the Summer School ranges from one thousand to fifteen hundred.

The Summer School

Summer quarters have achieved a significant place in American collegiate institutions, partly because they are organized to meet the needs of many different groups of people. There are always some students who carry on with their regular scholarship program; there are the elementary and secondary teachers meeting certification requirements or proceeding toward advanced degrees as they continue in their regular teaching positions, and finally there are many special groups who spend a week or two weeks or longer in short courses specifically adapted to their professions or avocations.

The Utah State University Summer School is organized to meet these diverse needs. For many years it has been a significant part of the institution. Since 1924 the program has been expanded to include visiting professors from different parts of the nation who supplement the regular faculty in various departments in giving advanced courses, conducting institutes, or giving one or more special lectures. Lyceum numbers in music and drama are also a significant part of the summer program.

A full quarter of study is available this summer, divided into two sessions, the first from June 10 to July 12, and the second from July 15 to August 16. Some courses in the first session are arranged to terminate in three weeks, thus making it possible for individuals to complete an intensive program for college credit if they cannot be on the campus for a longer period.

In general the 1957 summer offering has been planned to meet the needs of the groups indicated above. First, many regular students of under-

graduate standing will wish to use the summer quarter to complete requirements earlier than otherwise possible. Similarly, many high school graduates may want to enroll in college this summer in order to get their advanced schooling started without delay. Several departments are offering freshman courses to meet these needs, as well as more advanced courses meeting graduation requirements. Second, teachers planning to renew certificates or meet certification requirements for Utah and surrounding states will find that specific courses have been listed to meet their needs. Course needs for other special groups have also been kept in mind, and suitable offerings made available. A third group which the Summer School seeks to serve directly is the large number of graduate students who find it advantageous to pursue their school work in the summer time. A detailed description of the policies of the graduate school is included later in this bulletin.

Registration

Graduates from high schools in good standing with the institution last attended may be admitted to the summer sessions without being required to submit applications for admission.

Students admitted without credentials are considered as special students without official collegiate rating. Those desiring to become candidates for a degree must submit credentials covering all high school as well as college or university credits completed to date. The responsibility for submitting credentials rests upon the student. It is recommended that anyone who may be considering becoming a candidate for a degree should present credentials for evaluation at the earliest possible date so as to enable faculty advisers to give the maximum of counseling service.

The student load during the Summer Quarter is subject to approval by the deans of the various schools. A maximum of nine credits may be taken the first session, and six the second. Students are reminded that this number cannot be exceeded without the special approval of the dean of the school concerned. Nor will completion of correspondence study or extension class work paralleling Summer School be permitted if the combined total of credits exceeds the above figures unless special approval has been granted.

Students who desire to register for credit in research problems or field studies should make the necessary arrangements with the Registrar's Office at the beginning of the session in which the work is recorded. Credits allowed and fees charged for this type of study will depend on the time spent and the work accomplished.

Registration for the Summer Quarter will take place Monday, June 10 in the Main Reading Room of the Library, beginning at 8:00 a. m and continuing to 3:00 p. m. Classes will begin Tuesday morning, June 11. Students who fail to complete registration on Monday may do so any succeeding afternoon from 1:00 to 4:00 p. m. in the Summer School office (M-130). The first step in registration is to call at the Registrar's Office to obtain registration forms and instructions.

There will be no special registration period for the second session. New students or students making changes or additions can complete the registration process any time during the first week of the second session. Regularly scheduled second session classes will begin Monday, July 15, and continue five weeks, to August 16. The same rules as apply in the first session limit the amount of credit a student may take. Any regular college course which is not definitely scheduled for the second session in the catalog or the schedule bulletin will be given in that period if ten students petition the Summer Quarter Dean and join the class. Registration forms for any session period will not be accepted after the period has ended.

Scheduled classes, whether first or second session, may not be given if fewer than eight students register. If it is possible to do so, any course listed in the general catalog will be given if eight or more students request it. Requests should be directed to the head of the department concerned.

All graduate students must register with the Dean of the Graduate School, Dr. J. Stewart Williams who will be in the Main Reading Room of the library on Monday, June 10; thereafter, at his office in the Main building.

Class Schedule

The time of meeting for each class is designated along with course description. A schedule bulletin will be available as a guide on registration day. During both sessions of summer school the classes are 60 minutes in length with 10 minute intervals. The classes will recite according to the following schedule.

Period I	7:30 - 8:30
Period II	8:40 - 9:40
Period III	9:50-10:50
Period IV	11:00-12:00

Noon

Period V	1:00 - 2:00
Period VI	2:10 - 3:10
Period VII	3:20 - 4:20
Period VIII	4:30 - 5:30

Auxiliary Activities

Coaching School — June 3-7

H. B. HUNSAKER, Chairman

The thirty-first annual coaching school at Utah State University will be held from June 3 through June 7. Charles Taylor, Stanford University will be featured as the guest lecturer on football. Frank McGuire, University of North Carolina will be the guest lecturer on basketball.

Charles Taylor is starting his sixth year with the Stanford Indians. Prior to this time he had served as line coach for the San Francisco Forty-niners and has played some professional football. He has a five year record as head coach of the Indians, of 30 victories, 19 defeats and 2 ties. Since coming to Stanford he has gained the Pacific Coast Conference Championship, has been the youngest man ever to be named coach of the year in America, and in 1954 as head coach of the West Team, Taylor brought his team through to an astounding victory over a highly favored Eastern eleven in the annual Shrine Classic.

Frank McGuire needs no introduction to the basketball world. His engaging personality has won for him friends by the hundreds who will continue to be his friends and admirers regardless of the win and loss record of his teams. McGuire is in his fourth year as coach of the University basketball team. In these four years he has compiled a record of 56 wins and 36 losses. Last season he had a record of 18 wins and 5 losses. Prior to coming to North Carolina his teams compiled a record of 106 wins against 36 losses at St. Johns University. Four of his teams have gone to NIT Tournaments and two to the NCAA finals. Mr. McGuire is a basketball technician, and expert on defense and has an offensive system that permits imagination and experimentation by each individual player.

In addition to football and basketball, lectures will be given on baseball by Tony Robello of the New York Yankees; Athletic Training by Jack Rockwell, University of Colorado.

Registration for the school carries one credit for each course for the week. (Limit 2 credits for Coaching School). There will be free golf privileges at the Logan Country Club for those enrolled in the Coaching School. In addition, sightseeing excursions will be conducted. If possible reservations for enrollment in the Coaching School should be in before the opening date of June 3.

Junior Red Cross Training Program — June 9-15

For the third summer the Utah State Junior Red Cross Leadership Training Program will have its headquarters at the university. The purpose of the Program is to offer to 60 outstanding student leaders from Utah secondary schools the opportunity to learn how Junior Red Cross can serve community needs, promote world understanding, prepare for first aid, water safety, and home nursing. If you are interested in five days of training and recreation, write to Mrs. Dorothea McLaughlin, Director, Junior Red Cross, The American Red Cross, 555 Foothill Drive, Salt Lake City, Utah.

Demonstration School

The demonstration school will be conducted during the first session June 10 to July 12. Three classroom groups will be included: 1) a kindergarten group, 2) a group of first, second, and third grade children and 3) a group of intermediate grade. Individuals desiring to have children enrolled in the school should send applications to the Director of the Summer School, or to Mrs. Edith S. Shaw, Principal.

Demonstration School for Mentally Handicapped Children in connection with the Workshop in Curriculum for the Mentally Handicapped.

HEBER C. SHARP, Chairman

A special demonstration school will be held during four weeks of the second session, July 27 to August 17. This school, during the regular year, is operated by the Logan City School system and the University and is known as the Bonneville school. Teachers who enroll for the workshop or for related courses in Psychology and Education will have opportunity to visit the school in action. The class will be taught by Mrs. Phyllis R. Publicover, visiting instructor.

Chemistry Institute

for Teachers of High School Chemistry
June 10 to July 19, 1957 (Six weeks)

WILLIAM E. MORRELL, Director
HARRIS O. VAN ORDEN, Associate Director

One special feature of the 1957 Summer School at the Utah State University will be an Institute for Teachers of High School Chemistry sponsored jointly by the University and the National Science Foundation. The program will provide an opportunity for teachers of chemistry to improve their knowledge of chemistry and their teaching capabilities. The aim of the program is to improve knowledge and capabilities of High School Teachers of Chemistry by review and refresher work in current concepts of chemistry, by laboratory work in preparing lecture demonstrations and in selecting experiments for use in High Schools, by seminars on advances in chemistry, and by group discussions of teaching problems.

To accomplish the aim outlined it is planned that three courses will be offered for credit (7 quarter hours). Outstanding chemists and teachers will participate in the program as lecturers and staff members.

Lecturers to be featured at the institute will include:

Joel H. Hildebrand, University of California, president, American Chemical Society, 1955.

Alfred B. Garrett, Ohio State University, chairman, American Chemical Society Division of Chemical Education, 1953-54.

Rolland J. Gladieux, personnel administrator, Metals Research Laboratories, Union Carbide and Carbon Corporation, former Kenmore, N. Y. high school teacher.

Calvin A. VanderWerf, University of Kansas, chairman, American Chemical Society Division of Chemical Education, 1954-55.

Participants will be paid stipends at the rate of \$75 per week plus \$15 per week for each dependent (to a maximum of four). It is not necessary that the dependents accompany the participants to the institute in order to qualify for these stipends. A travel allowance equal to a single round trip at the rate of 4 cents per mile from his home to institute (maximum \$80) will be paid each participant. An allowance for tuition and fees will also be made each participant.

Housing for participants will be in the new dormitories. Apartment type units are available for couples and families with children 10 years or older. Everything except bedding is provided in these units. Participants with younger children will have to arrange for off-campus housing.

Awarding of stipends for the Institute will begin as soon as possible after applications are received. Early applications are solicited. For further information and applications write to Dr. Harris O. Van Orden, Chemistry Institute, Chemistry Department, Utah State University.

Teacher Placement Bureau

The University Teacher Placement Bureau functions actively during the Summer School session. All teachers seeking employment are encouraged to register with the bureau. Superintendents and others who employ teachers are invited to utilize the services of the bureau. Application folders will be made available upon request and interviews with applicants may be arranged through the bureau.

The Teachers' Placement Bureau is located in the Main Building, Room 179.

Recreation for All and All for Recreation at Utah State

H. B. HUNSAKER, Chairman
ARTHUR MENDINI, Director

Utah State has a Summer School Recreation Council composed of members from various departments and schools. This Council selects a Summer School Recreation Director who has the responsibility of planning a well-rounded Recreational program. It is hoped that the program will offer a variety of activities for large and small groups.

Several large group activities planned for the Summer School are:

HIKES — An annual hike is taken to the famous "Old Juniper Tree." All Summer School students are encouraged to take this hike, to the base of the "Old Juniper Tree." This tree is the oldest living Juniper tree in the world. Later the group gathers at the picnic ground near the start of the trail, for a picnic and camp-fire program.

LAWN SOCIAL — One of the first activities scheduled for Summer School students, is a get acquainted Social. Games, dances, and refreshments are enjoyed by all students and faculty of the Summer School.

SQUARE DANCE — One of the most popular activities of the Recreation program is the outdoor square dances. These dances are held on the tennis courts. Numerous guest callers from the area are invited to call at these dances. Refreshments are served.

In addition, many small group activities are sponsored by the college. These include:

CANYON PICNICS — Logan Canyon offers many ideal picnic areas. Through the Summer School Recreation program, students are urged to take advantage of these areas. Many Canyon parties are planned for large or small groups. Equipment, games, and campfire programs are only a portion of the service which may be supplied by the recreation Director.

Numerous trips to different points of interest near Logan are:

BRYCE AND ZION NATIONAL PARK — At Bryce and Zion you will see countless rock formations, beautifully colored by nature. This trip is taken over a three day period (week-end).

YELLOWSTONE NATIONAL PARK — Another of the educational as well as recreational excursions planned by the council, is a trip to Yellowstone. This trip consists of two days and two nights, one spent at Yellowstone. Bus transportation is arranged if the group is large enough.

BIRD REFUGE — One of the largest migratory bird refuges in the United States is located at Brigham City, 35 miles from Logan. Summer School students are taken on an interesting guided tour of the refuge.

In addition, there are ample facilities for swimming, bowling, tennis, golf and other activities.

Many theater productions, art exhibits, and musical programs are a regular feature of the Utah State Summer School. The college would appreciate being of service to you through its recreation council in planning your recreation program.

Utah State Summer Music Clinic — June 17-28

JOHN PHILIP DALBY, Chairman

The Utah State Summer Music Clinic serves two functions. It offers to high school students the opportunity to broaden and deepen their musical understanding and experience under the instruction of expert teachers of local and national reputation. It offers music teachers, supervisors, and college students the opportunity to observe the instruction of high school students while pursuing advanced work in their respective fields. University credit may be earned for the Summer Music Clinic apart from, or in connection with the first session of Summer School.

A full schedule of concerts and recreational activities, as well as classes in arts and crafts, provides additional opportunities for those enrolled in the Summer Music Clinic.

Utah Girls State — June 3-10

The purpose of this annual conference, under the direction of the state organization of the American Legion Auxiliary, is to educate our young women in the duties, privileges, rights and responsibilities of American citizenship. Headquarters are in the Student Union Building. Faculty members cooperate in arrangements, give some of the lectures, and assist in recreational activities.

Literary Conference — June 27, 28, 29

DR. KING HENDRICKS, Chairman

This literary conference covers a three day period and is concerned with a study of three Shakespearean plays, a discussion of modern fiction, non-fiction literature, and a concluding lecture probably in the field of classical or modern European literature.

Lecture and Entertainment Series

It is a custom of long standing to devote the eleven o'clock period daily to a series of outstanding lectures and entertainment features. An excellent roster of speakers and artists have been selected this year.

Aggie Ranger Hike — July 15-26

ARTHUR MENDINI, Chairman

The annual summer school "Leadership in Camping Course" (Aggie Rangers) will take place the first two weeks of the second session. Course work will include camp preparation, packing, menu planning, first aid, organization of hikes, campfire programs, camp personnel, equipment, as well as instruction in recreational skills. A primitive area will be selected for a week long laboratory experience in outdoor living. Course is designed to give leadership experience to those interested in outdoor education. Number permitted to enroll is limited. Pre-registration is recommended.

Workshop in Secondary School Language Arts — June 10-28

MRS. PEARL S. BUDGE, Chairman
MISS AFTON FORSGREN, Utah State Department
of Public Instruction, Co-Chairman

This workshop to be held in cooperation with the State Department of Education, will work toward the production of a useful guide for language

arts teachers from the seventh to the twelfth grade. Recent state studies in adolescent growth and development and the State guide for language arts in the elementary grades will be made available through resource people. The workshop will constitute a full load for the three weeks during which it meets. Registration limited.

For further information write to:

MRS. PEARL S. BUDGE
Department of Education
Utah State University

**First Annual Utah State University Conference on
Public Education
July 15-19**

CASEEL D. BURKE, Chairman

THEME: "A New Look at the Fundamentals In Education"

The conference will be concerned with current issues in education both general and specific. It is planned for classroom teachers, principals, supervisors, administrators, and other professional personnel. Separate workshop sections will be provided for each group, but coordinating sessions will be held to integrate the findings of the several sections.

Utah State University Preschool Laboratory

MISS RUBY EAMES, Supervisor

The facilities of the university preschool laboratory will be available to the children of students in the first summer session. The enrollment is limited to normal children from two years and eight months to five years of age. The primary purpose of the laboratory is the education of students who wish to work with young children. Children will be admitted in the order their applications are received, except that an effort will be made to secure an even number of boys and girls among those who are accepted. The laboratory is in session Monday through Friday from 8:30-10:50 a. m. Tuition for the five weeks session is \$5.00. Additional information and application forms are available on request to the Department of Child Development, or to Miss Ruby Eames, Supervisor, Preschool Laboratory. A limited number of children will be accepted, so parents should apply as soon as they have made their decision to attend summer school.

**Workshop in Curriculum for the Mentally Handicapped
July 29 — August 16**

HEBER C. SHARP, Chairman
SAMUEL A. KIRK, Visiting Professor

The workshop will be concerned with the study of curricula and adaptations in methods of teaching especially suited to the needs and patterns of abilities of slow learners. The workshop will meet three class periods daily, July 29 to August 16 and should provide helpful guidance both for teachers of special classes and for teachers who meet these children in the "regular" classroom. Psychology of Exceptional Children is a desired prerequisite but may be taken concurrently. Phyllis Publicover will conduct a special class providing both observational experience and practice teaching in this specialized area. Utah State's program provides classwork throughout the summer for teachers interested in special education.

GRADUATE SCHOOL

J. STEWART WILLIAMS, DEAN

Organization

Graduate study is supervised by the Dean of the Graduate School, assisted by the Graduate Council. This council consists of one representative from each of the seven schools of the college, and the libraries. Members of the council are appointed by the President in December of each year to serve a one-year term commencing the first of July following.

The Graduate Council for 1956-57 is as follows:

- School of Agriculture—Professor Leonard W. Pollard
- School of Arts and Sciences—Professor Eldon J. Gardner
- School of Commerce—Professor Evan B. Murray
- School of Education—Professor Arden Frandsen
- School of Engineering—Professor M. Greaves
- School of Forest, Range and Wildlife Management—
Professor Laurence A. Stoddart
- School of Home Economics—Professor Ethelwyn B. Wilcox
- Libraries—Professor Milton Abrams

Admission to Graduate School

A graduate with a Bachelor's degree from Utah State University or from any other accredited college or university may be admitted to the Graduate School. Seniors in this university who have an average of "B" or better in all their courses in the junior and senior years, and who at the beginning of any quarter lack not more than five quarter credits to complete all requirements for the Bachelor's degree, may be allowed to register in the Graduate School.

An application for admission accompanied by transcripts of all previously earned credits and letters of recommendation should be presented as far in advance of the day of registration as possible.

The applicant must be approved by the department in which he proposes to work.

Students who cannot qualify for the degree program in a particular field may be admitted to the Graduate School as non-candidate students. Admission to the Graduate School does not imply admission to candidacy for a higher degree.

Master's Degree

GENERAL: The Master of Science degree is offered in most of the basic biological, physical, and social sciences and in various educational, industrial, and professional divisions of the university. The specific departments in which the Master of Science degree is given, together with the courses provided by the departments, may be determined by consulting the departmental statements provided in this catalogue under the various undergraduate schools of the university.

QUALIFYING EXAMINATIONS: A qualifying examination is required by the Graduate School and may be taken prior to registration. If not taken, this examination and any qualifying examination required by the student's department must be taken as soon as possible after registration. The results of these examinations become a part of the student's file in the graduate office. If a student is found to be deficient in the work basic to the field in which he proposes to study, he may be required to take undergraduate courses, which do not count in the minimum requirements for the Master's degree, to satisfy the deficiency.

SUPERVISORY COMMITTEE: When it has been determined that a student is acceptable as a possible candidate for a higher degree, the major professor will suggest a committee to assist in guiding the student's program and in conducting necessary additional qualifying examinations and the final examination. When the student's program has been determined and approved by his committee, he will be advanced to candidacy for a degree. Advancement to candidacy must be accomplished before the end of the winter quarter if the student is to graduate at the following commencement. When the student's research is best supervised by a federal collaborator, or other person who is not a member of the regular teaching staff, such collaborator or other person may be designated as thesis director. This thesis director is a member of the student's committee.

STUDENT PROGRAM: The student program for the Master of Science degree must include:

1. At least 15 credits taken on the Logan campus;
2. At least 45 credits in courses numbered 100 or above which are approved for graduate credits;
3. At least 10 credits, exclusive of thesis, in courses numbered 200 or above;
4. A thesis with 9 to 15 credits, or thesis alternate as described below.

THESIS: Each candidate for a Master of Science degree, usually must present a thesis on a topic within the field of his major subject which must represent from 9 to 15 hours of the credit presented for his degree. The thesis must be a contribution to the field of knowledge, based on the student's own research, or a treatment and presentation of known subject matter from a new point of view. After final approval by the department, the thesis must be typewritten in standard form; and a copy must be submitted to each member of the student's Advisory and Examining Committee at least two weeks before the date of his final examination. After approval by the committee and the department, and after the student has successfully passed the final examination, four copies of the final draft of the thesis must be deposited in the graduate office. Two of these copies will be deposited in the library, another sent to the department, and the fourth returned to the student.

THESIS ALTERNATE: The supervisory committee may permit the substitution of three advanced reports, valued at 6 to 10 credits, for the regular thesis. These are known as "Plan B" reports. The Master's program is otherwise the same under "Plan B."

For students working under "Plan B" in general agriculture, the Dean of the School of Agriculture will select a major professor to be the chairman of the supervisory committee. The students' program must include a minimum of 6 credits each in the fields of Plant Science, Animal Science, and Agricultural Economics.

FINAL EXAMINATION: Each candidate for a Master of Science degree is required to pass a comprehensive final examination on the subject of his graduate study and on his thesis. This examination may be oral or written or both as his committee may decide, and is open to all faculty members and officials of the Graduate School. Arrangements for the time and place of the examination are made by the Dean of the Graduate School. A member of the Advisory and Examining Committee, other than the major professor, or a representative of the Graduate Council is appointed to act as chairman of the examination and submits to the Graduate Council the results of the examination. For candidates who are to receive their degree at the June Commencement, the date of the final examination should be not later than May 10.

TIME LIMIT: Work for a Master of Science degree must be completed within six years from the date of matriculation as a regular student in the

Graduate School if the work is done wholly or in part during the regular academic year. If the work is done entirely in summer sessions, a maximum of seven years is allowed. Older work may be revalidated by examination.

EXTENSION COURSE CREDIT: The amount of extension or off-campus credit to be allowed will be determined in consideration of the student's entire course program. In no case will more than nine quarter hours of extension credit be allowed as counting toward a degree and the total of off-campus credit may not exceed 15 hours, exclusive of thesis.

All extension courses for which graduate credit is sought must be regularly registered for through the Graduate School, and must have the sanction of the head of the department in which the student is doing his graduate work. Credit toward a Master of Science degree is not granted for correspondence study.

TRANSFER CREDIT: A maximum of 9 quarter credits of graduate work satisfactorily completed at another approved Graduate School may be allowed toward a Master of Science degree. The extent to which such credit may reduce either the course or the residence requirements will be determined by the student's committee.

CREDIT LOAD: Maximum load for full-time graduate students is 16 credits. Maximum for assistants engaged in teaching or research is 12 credits.

Degree of Civil Engineer and Irrigation Engineer

The School of Engineering and Technology offers a two-year graduate program in Civil Engineering and Irrigation Engineering leading to the degrees of Civil Engineer and Irrigation Engineer. The plan of study for these degrees is similar in many respects to plans at other western institutions for degrees of Civil Engineer, Mechanical Engineer, etc.

SPECIAL REQUIREMENTS: The student program for these degrees includes:

1. A minimum of 6 quarters of study, of which at least 3 quarters must be in residence at Utah State University.
2. Completion of 90 credits of approved courses.
3. Completion of a minimum of 30 credits of graduate courses (200 series) exclusive of thesis.
4. Completion of an adequate thesis based on a research program for which a maximum of 30 credits may be allowed by the committee.

For candidates who present the Master of Science degree in an appropriate field of engineering, and who have completed a thesis project for this degree, the requirements will be modified as follows:

1. A minimum of 3 quarters in residence.
2. Completion of a suitable program of study of not less than 45 credits of which
 - (a) at least 30 credits must be graduate course (200 series), and which may include
 - (b) a maximum of 20 credits for thesis.

The suggested curriculum for these degrees is detailed in the section on engineering.

Degree of Doctor of Philosophy

GENERAL: The degree of Doctor of Philosophy (Ph.D.) is awarded by the Utah State University in recognition of high attainment and productive scholarship in a special field of learning.

Admission to the Graduate School to work toward the degree of Doctor of Philosophy is obtained in the same manner as for the Master's degree. Qualifying examinations are similarly required, and the student's program is likewise directed by a supervisory committee.

STUDENT PROGRAM: The student program for the Doctor of Philosophy degree must include:

1. Three years of full-time graduate study above the Bachelor's degree. If the student has a Master's degree, then two years will be required. The student's supervisory committee may recommend that part of this program be taken at other schools, but the last year must be spent in residence at Utah State University.

2. A minimum of 135 credits of approved graduate study beyond the Bachelor's degree, 90 credits beyond the Master's degree;

3. A major field to which approximately two-thirds of the program is devoted, and a minor field to which approximately one-third of the time is devoted;

The minor may be divided between two suitable related areas. A master's degree in a suitably related area may satisfy the minor requirement.

4. A research problem on which a thesis will be presented. Credits for this thesis may not exceed 45, and work on the thesis should ordinarily occupy most of the third year, but may not be carried on with course work throughout the program.

LANGUAGE REQUIREMENT: A reading knowledge of at least one foreign language is required of all candidates. The particular language required will be that which meets best the applicant's needs. Requirement of a second language will be optional with the department in which the student is taking his major. The degree of proficiency of the applicant to use the required language in his chosen field and his knowledge of the grammar and structure of the language will be determined by a committee appointed by the Dean of the Graduate School from members of the Language department.

The language examination should be taken before the beginning of the third year of study.

COMPREHENSIVE EXAMINATION AND CANDIDACY: Written and oral examinations are conducted by the supervisory committee and the departments concerned, usually in the last quarter of the second year of the student's work, to determine his fitness for admission to candidacy for the degree of Doctor of Philosophy.

THESIS: A completed dissertation approved by the department must be presented to the supervisory committee not later than May 1 of the year in which the student will graduate. The dissertation must show ability to do critical and independent research. It must present a contribution to knowledge in scholarly fashion.

FINAL EXAMINATION: The final examination in defense of the candidate's thesis will be conducted by the supervisory committee not later than two weeks before the date of commencement.

Teaching and Research Assistantships

A number of teaching and research assistantships in various departments of the university are available each year for graduate students. Teaching assistantships carry a stipend of \$850 for one-third teaching service on a nine-month basis. Remuneration for research assistantships may vary from \$850 to \$1,500 dependent upon the time of service involved. Generally assistantships are arranged so as to allow the student to complete work for his Master's degree in two years. At present, assistantships are available in the following departments: Animal Husbandry, Accounting and Business Administration, Agricultural Economics and Marketing, Agronomy, Art, Bacteriology and Public Health, Botany and Plant Pathology, Chemistry, Child Development and Parental Education, Civil Engineering, Dairy Industry, Economics, Education, English, Entomology, Forest Management, Foods and Nutrition,

Geology, Horticulture, History, Irrigation and Drainage, Instrumental Music, Mathematics, Modern Languages, Physiology, Physics, Physical Education, Psychology, Range Management, Sociology, Speech, Vegetable Crops, Veterinary Science, Wildlife Management, and Zoology. Research fellowships are available in: Animal Husbandry, Agricultural Economics and Marketing, Agronomy, Chemistry, Entomology, Irrigation and Drainage, Physiology, Range Management, Wildlife Management, and Zoology.

Graduate Programs in Education

The following graduate degrees are offered in the field of Education:

MASTER OF SCIENCE: The Master of Science degree is awarded to those students completing a full year of graduate work in specified courses and writing a research thesis for which 9 to 15 credits is allowed. The thesis requirement may be fulfilled by the writing of two field studies.

MASTER OF EDUCATION: The Master of Education degree is granted in each of the following areas:

Master of Education in School Administration and Supervision

Master of Education in Secondary Education

Master of Education in Elementary Education

Master of Education in Vocational Education

The course of study leading to the Master of Education degree in each of the above areas has for its purpose the preparation of thoroughly prepared teachers, supervisors, and administrators. It aims at providing a broad foundation in the field of education and in the particular area of specialization, and differs from the Master of Science degree by providing more flexible requirements designed to meet the specific needs of the individual students. This professional degree emphasizes proficiency in the interpretation application of research.

DOCTOR OF EDUCATION: The professional degree of Doctor of Education is designed especially to prepare for leadership and expert service in the field of education. Requirements for this degree include the development of a high degree of competence in an area of specialization in education plus a thorough development of skills and knowledge of the broad field of education and in a supplementary field other than professional education.

Detailed requirements for the above degrees may be obtained at the office of either the Dean of the Graduate School or the Dean of the School of Education.

Graduation

Requirements for graduation in the various schools and departments of the University are listed in the general catalog. In most cases students can complete many of these requirements by attendance during summer quarters. In every department, one or more advisers are assigned to guide the student's work leading toward graduation. Students planning to attend during the summer are invited to write to the departments in which they are interested for evaluation of credits and other such guidance services.

Graduation exercises are held only once during the year—at the end of the spring quarter. Students who complete all requirements during the summer may receive official statements of completion by applying to the chairman of the Graduation Committee. Their degrees will be conferred at Commencement the following spring.

AGRICULTURAL ECONOMICS AND MARKETING

G. T. BLANCH, Professor and Head of the Department

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|------|--|---------------------------|---------------------------|----------------|-------|
| 214. | <i>Research in Agricultural Economics.</i> | Thesis. | Credit and time arranged. | Both sessions. | Staff |
| 215. | <i>Special Problems in Agricultural Economics.</i> | Credit and time arranged. | Both sessions. | Staff | |

AGRICULTURAL EDUCATION

STANLEY RICHARDSON, Professor and Head of Department
 VON JARRETT, Assistant Professor, Agricultural Engineering

290. *Special Problems for Agricultural Teacher.* For teachers of Vocational agriculture who desire to develop a more practical program for future, young, and adult farmers. Held during Agricultural Teachers Summer Conference. 2 credits. First session. Daily 7:30 to 4:50 for two weeks. June 3-14. Jarrett

291. *Special Problems.* For teachers who participate in the Annual Summer Conference for Teachers of Vocational Agriculture. Credit and time arranged. Staff

124. *Methods of Teaching Farm Mechanics.* Scope of mechanics in agriculture, lesson planning, course of study preparation, shop equipment and management, skill requirements, and supervised practice. 3 credits. First session. Daily 9:50 to 12. PA 220. Richardson

AGRONOMY

H. B. PETERSON, Professor and Head of Department; D. C. TINGEY, S. A. TAYLOR, Professors, D. R. McALLISTER, Associate Professor, R. L. SMITH, Assistant Professor, W. G. DEWEY, R. MILLER, Assistant Professors.

150. *Special Problems in Agronomy.* Conferences or library or laboratory investigations. Subject, time and credit arranged. Both sessions. Staff

218. *Special Problems in Agronomy.* Special problems in crop production, crop breeding, soil fertility or other phases of agronomy work are investigated. Students review literature on the problem and conduct experiments in the laboratory or on field plots. Credit and time arranged. Both sessions. Staff

230. *Research and Thesis.* Outlining and conducting research in soils or farm crops and preparation of thesis. Credit and time arranged. Both sessions. Staff

Any course listed in the regular catalog will be given in the summer sessions upon petition of ten or more students who may need and desire such a course.

ANIMAL HUSBANDRY

J. A. BENNETT, L. E. HARRIS, Professors
 M. A. MADSEN, H. STEFFEN, Associate Professors
 DOYLE MATTHEWS, Assistant Professor

230. *Animal Breeding Research.* Time and credit arranged. Staff

240. *Animal Nutrition Research.* Time and credit arranged. Staff

250. *Animal Production Research.* Time and credit arranged. Staff

ART

TWAIN TIPPETTS, Associate Professor and Head of Department
 FLOYD V. CORNABY, H. REUBEN REYNOLDS, Professors;
 JESSIE LARSON, EVERETT THORPE, Associate Professors;
 HARRISON GROUTAGE, Assistant Professor
 WILLIAM K. SUNDERMEYER, Visiting Professor

1. *Art Structure and Design.* Creative approach to line, mass, form pattern, texture, color, and their combined relationship to design construction. Credit 3. 1-3:10, M 334. First session. Thorpe

4. *Basic Drawing*. Objective drawing of natural forms from observation and memory in various media. A desirable prerequisite to all painting courses. Credit 3. 7:30-9:40, M 334. Second session. *Larson*

35. *Art History of Western Hemisphere*. Indian cultures of Latin America. Spanish Colonial contribution and contemporary developments in painting, sculpture and architecture. 3 credits. 1-3:10, M 337. First session. *Cornaby*

108. *Creative Painting*. Experiments in basic techniques of painting with approaches varying from designed realism to abstraction. Oil and related media. 3 credits. 9:50-12, M 336. First session. *Thorpe*

111. *Watercolor*. Various techniques in the contemporary use of watercolor media. 3 credits. 1-3:10, M 336. Second Session. *Groutage*

115. *Fabric Design and its Application*. Projects in creating designs of character and beauty and applying them to suitable textiles in techniques of block print, stencil, hooked rug, freehand painting, creative embroidery, silkscreen printing or batik. Desirable prerequisites: Art 1 and 2. 3 Credits 9:50-12, M 335. Second session. *Larson*

116. *Ceramics*. Creative methods of shaping and finishing pottery and ceramic sculpture in various types and styles. 3 credits. 3:10-5:30, studio. Second session. *Groutage*

118. *Leathercraft*. Design and construction of wallets, belts, bags, briefcases, holsters, bridles and related projects. Executed in techniques of modeling, carving, stamping, embossing, etc. 3 credits. 8:40-10:50, M 337. First session. *Cornaby*

153-154. *Art Education Workshop*. This course is designed to give teachers a chance to explore the field of art experiences, to work with many types of art media, to explore background material and to develop a philosophy of art suited to the learning needs of the art program to the other subjects of the elementary curriculum and some time will be devoted to the place of research and methods of its use in art activities. This course is designed to give help to the regular classroom teacher. 5 Credits. 8:40-12:00, 1:00-4:20. First three weeks. *Reynolds*

172. *Introduction to Fine Arts*. This course is designed to give a general introduction to the related arts of painting, architecture, music, and literature. When arts are studied in isolation, students often miss proper understanding of their inner relatedness. 3 Credits. Daily 9:50. First session. *Sundermeyer*

BOTANY AND PLANT PATHOLOGY

RALPH W. AMES, Professor and Head of Department

234. *Special Problems*. Open to qualified students majoring in pathology, taxonomy, plant physiology, or cytology. Time and credit arranged. First and second session. *Staff*

250. *Research*. Open to all qualified students in botany and plant pathology. Time and credit arranged. First and second session. *Staff*

BACTERIOLOGY AND PUBLIC HEALTH

W. WHITNEY SMITH, KENNETH R. STEVENS, Professors; PAUL B. CARTER, Assistant Professor; EARL L. FILLMORE, REED A. ROBERTS, Special Assistant Professors. ELWOOD C. DAVIS, Visiting Professor.

Bacteriology

10. *Elementary Bacteriology*. Basic concepts and practical application. 5 credits. Second session 7:30 to 9:40 a. m. Daily. P. 302.

Stevens

294. *Bacteriology Problems*. Prerequisite: Consent of instructor. Credit and time arranged. First and second sessions.

Staff

299. *Thesis Research*. Prerequisite: Graduate status and consent of instructor. Credit and time arranged. First and second sessions.

Staff

Public Health

155. *School Health*. Meets state certification requirements in health education. 4 credits. Both sessions. MTWTh. First session 7:30 to 9:40. Second session 9:50 to 12. P. 302.

Stevens

254. *Advanced Public Health Problems*. Prerequisite: Consent of instructor. Credit and time arranged. Both sessions.

Staff

256. *School Health Methods*. Objectives, methods, curricula, and materials for secondary schools. 3 credits. First session. 8:40-9:50. Daily.

Davis

BUSINESS ADMINISTRATION

W. V. TEZAK, Assistant Professor

129. *Managing Personal Finances*. Designed to aid in meeting the growing complexity of personal finance: how to avoid financial entanglements, installment buying, borrowing money, owning or renting a home, investing and speculating in securities, everyday legal problems dealing with illness, death, personal taxes. 5 credits. Offered both sessions. M 308. 11:00-12:00.

Tezak

150. *Managerial Accounting*. Emphasizes the use of accounting as a tool of control for management. Major aspects include budget and managerial control, break-even charts, selection of alternatives. Required of all Business Administration majors. 5 credits. Offered both sessions. M308. 8:40-9:40.

Tezak

CHEMISTRY

MELVIN C. CANNON, Professor and Head of Department

GARTH L. LEE, HARRIS O. VAN ORDEN, Associate Professors

WILLIAM E. MORRELL, Visiting Professor

10, 11. *General Chemistry*. Fundamental Principles of Inorganic Chemistry. Prerequisite: One unit of high school or college algebra. *Chemistry 10* offered first session and *Chemistry 11* offered second session. Lecture daily at 7:30. Lab. T.Th. 9:50-1:00. Recitation MWF 9:50. 5 credits each term.

Lee

Chemistry Institute for Teachers of High School Chemistry. (See p. 18) June 10-July 19. This institute is sponsored jointly by the University and the National Science Foundation. The program will provide an opportunity for teachers of chemistry to improve their knowledge of chemistry and their teaching capabilities. Outstanding chemists and teachers will participate in the program as lecturers and staff members.

The following courses will be taught during the Institute.

Chemistry 160 or Education 160. Special seminar in Chemistry. A course devoted to current aspects of a variety of topics in chemistry of interest to High School Chemistry teachers. Time arranged. First term. 2 credits.

Institute staff

Chemistry 170 or Education 170. Principles of Chemistry. A review and refresher course in chemistry designed to meet the needs of in-service teachers of High School chemistry. This course will not be accepted toward meeting requirements for a professional degree in chemistry. Time arranged. First term. 3 credits. *Institute staff*

Chemistry 171 or Education 171. Experimental Chemistry. A laboratory course designed to aid in the preparation and design of lecture demonstrations and laboratory experiments suitable for use in High School programs. Time arranged. First term. 2 credits. *Institute staff*

CHILD DEVELOPMENT AND PARENT EDUCATION

DON C. CARTER, Associate Professor and Head of Department
RUBY EAMES, Assistant Professor and Instructor

VISITING FACULTY

DR. ERNEST G. OSBORNE

MRS. MARY OSBORNE

67. *The Child in the Family.* To help students develop a philosophy of family living as desirable background for the child; fundamentals of growth and development; and a beginning concept of guidance. 3 Credits. First session. Daily 7:30. C 202. *Carter*

68. *Preschool Laboratory.* Directed observation in the University Preschool Laboratory. Recommended to parallel C.D. 67. 2 Credits. First session. T-Th. 8:40 and two hours arranged. C 202. *Carter*

80. *Guidance of the Young Child.* Review of developmental principles with special emphasis on social-emotional growth; fostering growth through creative materials and play equipment; guidance philosophy, principles and techniques. 3 Credits. First session. MWF 7:30 with four hours arranged. C 202. Prerequisite: CD 67. *Eames*

108. *Family Relations.* Social and psychological aspects of marriage; male and female roles; varieties of family patterns; parent-child relationships. Intended for students from all departments who are interested in their own family situation, or who are teaching in subjects related to family living. 2 credits. First session. Two weeks June 10-21. C 202. 1-3 Daily. *Ernest G. and Mary Osborne*

CLOTHING, TEXTILES AND RELATED ARTS

FLORENCE GILMORE, Associate Professor
DOROTHY HATFIELD, Assistant Professor
HARUKO TERASAWA, Instructor

115. *Art in Everyday Living.* Study of art elements and principals of design as applied to dress, the home and daily living. Prerequisites: Art 1 and 2. For Home Economics Education Majors. Others interested consult instructor. 3 Credits. First session. MTWTh. 8:40 to 10:50. *Hatfield*

133. *Advanced Home Furnishings.* A laboratory course giving experience in furniture renovation. 3 Credits. MTWTh. First Session. 1:00-4:20. *Hatfield*

165. *Tailoring.* Application of techniques used in tailoring suits and coats. Prerequisites. CTRA 25. Recommended CTRA 125. 3 Credits. MTWTh. First Session. 7:30-10:50. *Terasawa*

170. *Flat Pattern Designing.* Principles of designing and construction of patterns by flat pattern method; fitting and pattern alteration; development and use of a basic sloper. Prerequisites: CTRA 25, 115. 3 Credits. First Session. MTWTh. 1:00-4:20. *Terasawa*

190. *Special Problems*. Independent study under direction of professor of a problem in CTRA in which upper division or graduate student has special interest or need. Consult department head before enrolling. Time and credit arranged. *Hatfield*

DAIRY INDUSTRY

A. J. MORRIS, Professor

PAUL B. LARSEN, GEORGE E. STODDARD, Associate Professors

7. *Dairy Practice*. For special or short course students only. Practice in plant manufacture emphasized. Time and credit arranged. Both sessions. *Larsen*

220. *Research in Dairy Industry*. Time and credit arranged. Both sessions. *Morris and Stoddard*

254. *Special Problems in Dairy Industry*. Time and credit arranged. Both sessions. *Stoddard and Larsen*

DRAMA

FLOYD T. MORGAN, Associate Professor

VOSCO CALL, Assistant Professor

166. *Drama Production*. A course dealing with problems of play selection, casting, acting, directing, scenery construction and painting, lighting, costume and make-up. Recommended to drama teachers, M.I.A. drama directors, recreation leaders. Students will assist with the production of the Cache Valley Centennial musical play. Daily at 1 and crew times arranged. 3 Credits. First session. *Morgan and Call*

190. *Problems and Projects in Theatre*. Selected research problems of merit or advanced projects in acting, directing, scene design, costume design, costume construction, lighting, technical practice, make-up and theatre management. Projects may be done in connection with this summer's musical production or they may be independent endeavors. Credit and time arranged. *Morgan and Call*

204. *Thesis*. Time and credit arranged.

Theatre Workshop

Utah State's Theatre Workshop is now in its eighth season. Plays presented in past summers include *Antigone*, *The Importance of Being Earnest*, *Thunder Rock*, *The Wingless Victory*, *The Lady's Not for Burning*, *Jane and Snow White*.

This summer Theatre Workshop participants will assist with the production of the Cache Valley Centennial musical, "Look On The Land," to be presented in the outdoor amphitheatre the first week of July.

ECONOMICS

EVAN B. MURRAY, Professor and Head of Department;

V. L. ISRAELSEN, Professor

51. *General Economics*. This is a course in economics principles and problems for the general university student. Both sessions. Daily 7:30. 5 Credits. *Israelsen and Murray*

127. *Social Security*. A survey of the main divisions of social security legislation. Second session. Daily 8:40. 3 Credits. *Murray*

165. *Money and Banking*. Critical analysis of our present monetary and banking system. First session. Daily 8:40. 3 Credits. *Israelsen*

200. *Research in Economics*. Special investigations carried on by senior and graduate students. Credit granted according to work done. Both sessions. Time arranged.
Israelsen and Murray

201. *Readings and Conferences*. For senior and graduate students. Time and credit arranged.
Israelsen and Murray

EDUCATION

JOHN C. CARLISLE, Professor and Head of Department; ELLVERT H. HIMES, E. A. JACOBSEN, L. G. NOBLE, Professors; CASEEL D. BURKE, EDITH S. SHAW, ELDON M. DRAKE, Associate Professors; TERRANCE E. HATCH, PEARL S. BUDGE, JEAN PUGMIRE, Assistant Professors; ALICE OLSEN, IVAN PEDERSEN, BEE ROBERTS, THOMAS TAYLOR, EVELYN WIGGINS, Instructors.

VISITING FACULTY

LOIS C. BLAIR, E. E. DEVEREAUX, SHERMAN EYRE, JAMES E. FRASIER, E. H. FIXLEY, MARGARET HEATON, SAMUEL A. KIRK, HERBERT SANDBERG, LLOYD THEURER, J. G. UMSTATTD, IMOGENE WILSON, PHYLLIS R. PUBLICOVER.

102. *Teaching the Language Arts*. A study of language development in children and its implication for class room practice. Emphasis will be placed upon these aspects of communications: listening, speaking, writing and reading. 3 Credits. First session. 8:40.
Sandberg

103. *Principles of Elementary Education*. Aims, functions, work and attainable goals of the elementary school as an integral part of the American school system of education. Part of the work of the course is observation and analysis of practices and procedures in selected elementary schools near the University. 4 Credits. Second session. 9:50.
Staff

104. *Elementary School Curriculum*. Familiarizes prospective elementary teachers with the nature and content of the elementary curriculum and factors that influence its development. Includes an introduction to Utah Elementary Teaching and Supplements, and considers some of the objectives, methods of instruction, teaching aids and materials, and sources of information related to the subjects of the curriculum. 5 Credits. First session. 8:40-10:50.
Pugmire

105. *Principles of Teaching in the Elementary School*. The purposeful activity of the child as the basic principle determining teaching procedure. Significance of individual differences in application to schoolroom practices. Consideration of class room organization, equipment, and play activities. To be taken concurrently with student teaching. Second session. 8:40. 3 Credits.
Staff

107. *Teaching of Reading*. Considers the objectives of the reading program, stages of reading development, skills and attitudes to be gained, the materials of instruction, and the experiences of children that contribute to achievement of the objectives of reading. 3 credits. First session. 9:50.
Sandburg

108. *Social Studies in the Public School*. Social responsibilities and opportunities of youth in the modern world. Emphasizes the part to be played by the school and the teacher in helping children meet problems of living. Deals with content and methods on both elementary and secondary levels. 3 Credits. First session. 7:30.
Burke

109. *Methods and Materials for Teaching Elementary Science*. A course designed to give practical help to elementary school teachers who wish to teach science more effectively. Various areas of science are examined from the viewpoint of elementary school children, and related teaching techniques and materials are considered. Emphasis is placed on the con-

struction of home-made equipment, the provision of science experiences outside the classroom, and the development of scientific attitudes. 3 Credits. First session. 8:40. *Taylor*

109b. *Teaching of Arithmetic*. The course will deal with the modern viewpoints and techniques of teaching arithmetic and will provide opportunity for creating instructional materials and devices. 3 Credits. First session. 9:50. *Taylor*

110. *Diagnostic and Remedial Teaching*. Specific objectives of the elementary school and methods of analyzing the extent to which these objectives are reached. Diagnostic and remedial measures with respect to various areas of the curriculum. 3 Credits. First session. 7:30. *Stone*

111. *Principles of Secondary Education*. The background and status of the American Secondary school. Problems concerning desirable objections and functions are analyzed. An introduction to various type curricula and method is included. Second session. 7:30. 5 credits. *Staff*

113. *Principles of Guidance*. Major emphasis given to organization of guidance as a service, including individual and occupational difference, tests, measurements, and counseling. 3 credits. First session. 7:30. *Hatch*

114. *Organization and Administration*. Fundamental principles of organization and administration of schools in the American public school system with emphasis on Utah conditions. 3 credits. Second session. 8:40. *Pedersen*

120. *Core Curriculum*. The class will deal with a study of the evolving core curriculum in the secondary school. Procedures involved in developing core units and resource units will be considered. 3 credits. Second session. 9:50. *Frasier*

132. *Workshop in Curriculum for the Mentally Handicapped*. The course will meet as a workshop three class periods daily, July 29 to August 16, and will be concerned with study of curricula and adaptations in methods of teaching especially suited to the needs and patterns of abilities of mentally retarded children. The workshop should provide helpful guidance both for teachers of special classes for these children and for teachers who provide for them in "regular" school classes. Psychology of Exceptional Children, Psychology 123, is a desirable prerequisite. Observation experience with a special class will be available to students enrolled in either Psychology 123 or Education 132, 3-5 credits. Second session. 8:45-12:00. *Kirk*

133. *Curriculum and Methods for Kindergarten*. The course will deal with purposes and procedures in kindergarten education. Class members will spend some time observing the kindergarten demonstration school on campus. First session. 1:00. 3 Credits. *Pugnire-Olsen*

136. *Improving Instruction in the Elementary School*. An analysis of the newer concepts of method and of the basic factors which contribute to effective learning. Motivation, problem solving, laboratory techniques, and materials of learning will receive attention. 3 Credits. First session. 7:30. *Shaw*

138. *Improvement of Teaching in the Secondary School*. Designed to meet the needs of teachers, supervisors, and administrators. Emphasis will be upon recent development in the improvement of teaching learning situations and activities from the junior high school to the junior college. 3 Credits. First session. 7:30. *Budge*

151. *Teaching of Biology in High School*. (See Zoology) Methods and materials for teaching high school biology. Methods of teaching student how to study text, how to use work book or laboratory manual and use of review books. Use of projects and laboratory teaching techniques. Pre-

paration of lesson outlines. Discussions on biology and chemistry as a means of stimulating a student to become a scientist. Special considerations to be given the gifted student and the slow student. Methods of securing discipline and preventing little problems from becoming big ones. 3 Credits. Second session. 7:30. *Devereaux*

152. *Workshop in Secondary School Language Arts* (June 10-28). This workshop, to be held in cooperation with the State Department of Education, will work toward the production of a useful guide for language arts teachers from the seventh to the twelfth grade. Recent state studies in adolescent growth and development and the state guide for language arts in the elementary grades will be made available through resource people. The workshop will constitute a full load for the three weeks during which it meets. 5 Credits. First session. 8:40-11:00. *Heaton*

156. *Student Teaching in Special Education*. The area of specialized training for this course is with the mentally handicapped child and is designed to help the teacher apply methods and techniques found to be successful with slow-learning children. The apprentice plan is followed which requires an initial period of observation with minor responsibilities which increase as the student's ability is demonstrated. Enrollment is limited to experienced teachers or students who have completed Education 106. Students enrolled in the class will also be expected to have completed or be concurrently taking the courses in Psychology 123, Psychology of Exceptional Children, and Education 132, Curriculum for the Mentally Handicapped. The class will be conducted during the last 4 weeks of the second session, July 22 to August 16, and will require one-half day five days a week of the student's time during this period. 3-5 Credits. *Kirk*

161. *Audio-Visual Aids in Education*. Studies the building of a workable program in which the newest materials and techniques are utilized. 3 Credits. First session - Section 1 - 9:50. Section 2 - 1:00. *Drake*
Second Session - Section 1 - 9:50. *Pedersen*

182. *History of Education*. Major educational movements from early Greece to the present with emphasis on purposes, organization, instructional procedures, curriculum, etc., and their bearing on today's education. 3 Credits. First session. 8:40. *Noble*

202. *Philosophy of Education*. An analysis of the major philosophies of education and their implications for current educational practices. 3 credits. First session. 8:40. *Jacobsen*

204. *Elementary School Curriculum*. An advanced course in elementary school curriculum for graduate students including experienced teachers, supervisors, and administrators. Second session. 8:40. 3 Credits.

Staff

205. *Reading and Conference*. Provide for individually directed study in subjects of one's special interest and preparation. Time and credit arranged. Offered both sessions. *Staff*

207. *Elementary School Administration*. The operation and management of the modern elementary school. 3 Credits. First session. 9:30.

Burke

208. *School Supervision*. The principles and practices of school supervision including the qualifications and responsibilities of the supervisor in elementary and secondary education. 3 Credits. First session. 8:40.

Blair

209. *Supervision of Student Teachers*. The course will deal with practical problems involved in relationships between the classroom teacher and the student teacher. How to make the student teaching experience more significant in the teacher preparation curriculum will be the central

problem. Study materials will deal with successful practices in the elementary and secondary schools as reported from different areas of the country. 3 Credits. First session. 1:00. *Blair*

211. *Educational Measurements and Statistics*. Principles of measurements, tests and test construction, statistical analysis, and evaluation procedures in education. 3 Credits. Second session. 8:40 a. m. *Sharp*

213. *Organization and Administration of Guidance*. Development and evaluation of plans for utilization of school and community resources in guidance. 3 Credits. Second session. 7:30. *Himes*

215. *Secondary School Curriculum*. A study of the secondary school curriculum, junior and senior high school, as it now exists in typical schools, with special reference to Utah. Second session. 11:00. 3 Credits. *Carlisle*

217. *Junior High School*. The course will consider problems of curriculum and teaching in the junior high school. Class members will have opportunities to work on problems of immediate concern to them. For teachers, supervisors, and administrators. 3 Credits. Second session. 8:40. *Frasier*

218. *Public Relations in Education*. Objectives and techniques and media for an improved school public relations program are listed and evaluated. First Session. 9:50. Section 1. 3 Credits. *Drake*

221. *School Administration*. The work of the school administrator and the principles upon which the profession of school administration is practiced. Federal, state, and local relations to education are studied. 3 Credits. First Session. Sec. 1. 7:30. *Fixley*

222. *Administration of School Personnel*. Principles and practices in management of teacher and pupil personnel. Second session. Sec. 1. 9:50. 3 Credits. *Staff*

236. *Secondary School Administration*. Topics in secondary school administration are considered, including problems of teacher-pupil personnel, the principal as supervisor, and managing the activity program. Designed for experienced school principals, and those preparing for the administrator's certificate in secondary education. First session. 9:50. 3 credits. *Hatch*

237. *Problems in Secondary Education*. For graduate students in secondary education and those preparing for school administration and supervision in the junior or senior high schools. Reviews current research in areas of special interest to class members. First session. Section 1. 8:40. 3 Credits. *Umstattd*

245. *Problems in Elementary Education*. Consideration given those fields of elementary education that members of the class desire to investigate in order to gain modern authoritative viewpoints. Opportunity for both individual and group work. Second session. Section 1. 11:00. 3 credits. *Staff*

267. *Introduction to Research*. An inquiry into the nature and sources of research problems with a study of underlying principles and methods of working out such problems in education. Some attention is given thesis writing as a problem related to research. 3 Credits. First session. 9:50. *Carlisle*

271. *Research and Thesis Writing*. Individual work in thesis writing with necessary guidance and criticism. Credit arranged. Offered both sessions. *Staff*

275. *Field Studies and Thesis*. Individual work on research problems applying on the program of the Ed.D. Time and credit arranged. Both sessions. *Staff*

281. *School Finance*. The importance of finances in a school system; principles and practices involved in collecting and distributing school revenues, with special reference to conditions in Utah. First session. Section 1. 7:30, 3 Credits. *Eyre*

282. *School Business Management*. An intensive study of the factors involved in the efficient business management of school systems and individual schools. For school administrators, clerks, and students preparing for these positions. Second session. 8:40. 3 Credits. *Theurer*

315. *Curriculum Development*. Advanced problems in the foundation of curriculum building. Philosophic bases of the curriculum, current practices, and organization for curriculum study. 3 Credits. First Session. 9:50. *Umstatted*

323. *Legal Aspects of School Administration*. Emphasis is given to responsibilities and functions of local and district school administrators with interpretation of legal status, form and procedure as established by statutes, legal opinions, and court decisions. 3 Credits. First session. 8:40. *Fixley*

355. *School Building Programs*. School housing surveys, location and capacity of schools, instructional needs as a basis for planning, standards for equipment, checking plans and specifications, business and legal provision governing financing and construction of new buildings, bids and contracts. Second session. 7:30. 3 Credits. *Staff*

Education 160, 170, 171, (See Chemistry Institute). Institute Staff

Demonstration School (See page 17).

Wilson

Olsen, Roberts, Wiggins

ELECTRICAL ENGINEERING

LARRY S. COLE, Professor and Head of Department

CLAYTON CLARK, BERTIS L. EMBRY, Professors

BRUCE O. WATKINS, WILLIAM L. JONES, Associate Professors

Any course listed in the regular catalog will be given in the summer sessions upon petition of a sufficient number of students who may need and desire such a course.

ENGINEERING DRAWING

AUSTIN G. LOVELESS, Associate Professor and Head of Department

61. *Engineering Drawing*. The use of drafting instruments, graphic solutions, applied geometry, lettering, principles of shape description, sectioning and auxiliary views. 3 Credit. First Session. *Loveless*

63. *Descriptive Geometry*. Principal and auxiliary views, points, lines and planes, developments, intersections and warped surfaces. Engineering problems relating to cut and fill, mining, geology, and industrial design, are selected. Prerequisites: E. D. 61. One lecture, two labs. First session. 3 Credits. *Loveless*

ENGLISH

KING HENDRICKS, Professor and Head of Department; HUBERT W. SMITH, MOYLE Q. RICE, Professors; T. Y. BOOTH, J. GOLDEN TAYLOR, Assistant Professors; ANNA MARIE SMITH, Instructor; WILLIAM K. SUNDERMEYER, Visiting Professor.

5. *Vocabulary*. A study of word formation and derivation as a means of understanding scientific terms and of increasing vocabulary. First session. 3 Credits. Daily 9:50. L 305. *Booth*

12. *Practice in Composition*. A course designed for students who want practice in composition. First session. 3 Credits. Daily 9:50. L 303.
Taylor
33. *Readings in the Short Story*. First Session. 3 Credits. Daily. 1:00. L 301.
Rice
- *40. *World Literature before 1650*. Both sessions. 5 Credits. Daily 9:50. L 301.
Rice
- *54. *American Literature - Late Period*. Both sessions. 5 Credits. Daily 7:30. L 303.
Taylor
104. *Grammar*. A course designed for teachers. Second session. 3 Credits. Daily 7:30. L 305.
Booth
105. *History of the English Language*. Both sessions. 3 Credits. MWF 9:50. L 307.
Hendricks
110. *Advanced Composition*. For students who have had some training in English composition. May be used to fill the nine hour requirement. Also may be used as a refresher course for teachers. Both sessions. 4 Credits. MTWTh. 8:40. L 301.
Rice
111. *Technical Writing*. Emphasis upon bibliography research method and a final form of a technical report. First session. 3 Credits. Daily 7:30. L 305.
Booth
122. *Children's Literature*. Prose and poetry of childhood especially designed for teachers. First session. 3 credits. Daily 7:30. Edith Bowen School.
A. Smith
123. *Literature for the Adolescents*. Prose and poetry for the junior high and high school age. Especially designed for teachers. First session. 3 Credits. Daily 9:50.
A. Smith
148. *Comparative Literature*. The Romantic period in England and Germany. First session. 3 Credits. Daily 8:40. M 32. Sundermeyer
- 154c. *American Major Authors*. Intensive study in the work of Hawthorne. Second sessions. 2 Credits. MTWTh. 11:00. L 303.
Taylor
- *169. *Readings in World Drama - Late Period*. Both sessions. 5 Credits. Daily 9:50. L 309.
Smith
211. *Bibliography and Research Methods*. An intensive course in preparation of bibliography use of source materials and other problems of thesis writing. Open to graduate students only. First or second session. 2 Credits. MTWTh. 8:40. L 305.
Booth
253. *Seminar in American Literature*. Open only to graduate students. Both sessions. 3 Credits. MWF 7:30. L 309.
Smith
261. *Seminar in Middle English Literature*. Open only to graduates. Both sessions. 4 Credits. MTWTh. 8:40. L 307.
Hendricks

ENTOMOLOGY

D. M. HAMMOND, Professor and Head of Department

102. *Systematic Entomology*. Study of the classification of insects to orders. Collection required of 400 specimens, 125 species and 15 orders. Open only to students other than Entomology majors. Prerequisite: Entomology 13 or 109. Three labs. 3 Credits. Time arranged. Both sessions.
Staff
210. *Special Problems*. Students with sufficient preparation may select or be assigned problems dealing with certain phases of Entomology.

*May be taken either or both sessions, if taken just one session 2½ credits will be given.

The amount of credit depends on the nature of the problem and amount of time spent. Approval of the instructor should be obtained prior to registration. Time and credit arranged. Either or both sessions. *Staff*

250. *Research and Thesis*. For research connected with problem undertaken for partial fulfillment of requirements of Master of Science degree. Time and credit arranged. Either or both sessions. *Staff*

FOODS AND NUTRITION

UNA VERMILLION, Professor and Acting Dean
VIRGINIA HARDER, Assistant Professor
EVELYN HANSEN, Visiting Lecturer

102s. *Foods for Special Occasions*. Designed for planning and organizing the preparation and serving of food for special occasions that are applicable to family situations. Credit 2. MW 8:40, C 203. Lab. TTh. 8:40-12, C 103. First session. *Staff*

146. *Food Technology*. Manufacture and preservation of food products and influence of these processes on physical, chemical, and nutritive values of foods. Prerequisites: Bacteriology 10, Foods 24. Credit 2. MW 8:40, C 203. Lab. TTh. 8:40-12. Second session. *Harder*

150s. *Efficiency Techniques in Food Preparation*. A workshop for those students who are interested in the newer techniques, appliances and packaged foods. Daily lecture 7:30-9:40, Lab. 2:10-5:30. Week July 8-12. Credit 1. *Hansen - Vermillion*

FOREST, RANGE AND WILDLIFE MANAGEMENT

LEWIS M. TURNER, LAURENCE A. STODDART, J. WHITNEY FLOYD, WILLIAM F. SIGLER, GEORGE HILLS KELKER, T. R. DANIEL, C. WAYNE COOK, Professors; ARTHUR D. SMITH, RAYMOND R. MOORE, ALLEN W. STOKES, Associate Professors; STEWART ROSS TOCHER, DuWAYNE L. GOODWIN, Assistant Professor.

ASSOCIATED STAFF

JESSOP B. LOW, Wildlife Management; James L. MIELKE, Forest Pathology; OLIVER B. COPE, Fishery Management.

Forest Management

J. WHITNEY FLOYD, Professor and Head of Department

145. *Forest Problems*. Individual study and/or research upon a selected forestry problem, approved by the instructor. 1-3 credits. *Staff*

210. *Forest Problems*. Individual advanced study and research upon a selected forestry problem approved by the student's major professor. 2-10 credits. *Staff*

Range Management

LAURENCE A. STODDART, Professor and Head of Department

R. 98. *Range Practice*. Field problems in range land appraisal, problems of range analysis, and correlation of land uses. Lab. fee \$5. Summer Camp. 2 Credits. *Goodwin*

R. 195. *Range Problems*. Individual study of selected range management problems. Time and credit arranged. *Staff*

R. 200. *Range Thesis*. Original research and study on a special problem pertaining to range management. Open to graduate students only. Time and credit arranged. *Staff*

Wildlife Management

WILLIAM F. SIGLER, Professor and Head of Department

170. *Wildlife Problems*. Individual study and research upon a selected wildlife problem approved by the instructor. 1-3 Credits. Both sessions. Time arranged. *Staff*

270. *Research and Thesis*. A research problem chosen, the project outlined, and data collected, analyzed, and summarized, and thesis prepared by the student. 9-15 Credits. Both sessions. Time arranged. *Staff*

Forestry Summer Camp

June 3 through July 19

Director, Associate Professor RAYMOND R. MOORE

The School of Forest, Range and Wildlife Management owns or controls 3,000 acres of forest and range land approximately 25 miles from the campus within the Cache National Forest, where summer camp facilities are established. Eight weeks of field instruction is given at the Tony Grove Summer Camp and is required for graduation of all students in the School of Forest, Range and Wildlife Management. Attendance at this camp is required between the sophomore and junior year and is prerequisite to the technical courses of the junior and senior years.

There are four instruction courses offered at summer camp with a total of nine credits, and students in the School of Forest, Range and Wildlife Management are required to take all four courses. This summer camp opens Monday, June 3 and runs through July 19.

96. *Forest Surveying*. Practical field problems in surveying methods commonly employed in forest, range and wildlife management. Lab. fee \$5.00. Summer Camp. 3 Credits. *Daniel and Moore*

97. *Forest Practice*. Field studies in inventories, successional stages and growth of stands of trees. Study of forest soils and related land uses. Lab. fee \$5.00. Summer Camp. 2 Credits. *Daniel and Moore*

98. *Range Practice*. Field practice in the problems of range land analysis and correlation of land uses. Lab. fee \$5.00. Summer Camp. 2 Credits. *Goodwin*

99. *Wildlife Practice*. Integrated studies of wildlife population in relation to other forms of life and to other land uses. Lab. fee \$5.00. Summer Camp. 2 Credits. *Kelker*

GEOLOGY

J. STEWART WILLIAMS, Professor and Head of Department
CLYDE T. HARDY, Associate Professor; DONALD R. OLSEN, Instructor

3. *Physical Geology*. For students in Geology, Forestry, Engineering, Agronomy, etc. 5 Credits. 8-10. M 287. M 81. First session *Olsen*

116. *Special Problems*. Directed study of selected problems. Written report required. Time and credit arranged. First session. *Olsen*

HISTORY

M. R. MERRILL, Professor and Head of the Department
J. DUNCAN BRITE, Professor
E. L. PETERSON, Assistant Professor

5. *Modern World Civilization*. The cultural history of the world from the sixteenth century to the present. Emphasis on European civilization and its spread in the world - The Americas, the Near and Far East. 5 Credits. 7:30, M 281.

First Session - J. D. Brite

Second Session - E. L. Peterson

21. *The Americas to 1763*. Geography, pre-Columbian peoples, conquest and colonization by European powers, international rivalries, political, social and economic developments. Credit 3, 9:50, M 281. Second session.
E. L. Peterson

138. *The History of Russia*. From the earliest times to the present day. 3 Credits, 9:50, M 281. First session.
J. D. Brite

HOME ECONOMICS EDUCATION

VIRGINIA HARDER, Head of the Department

220S. *Methods and Techniques in Teaching Home Economics*. Contributions of Home Economics to the educational program. Analysis of teaching situations. Prerequisite or parallel: Psychology 102a. First session. 3 Credits. Daily 10:50. Room 207.
Harder

237. *Seminar*. Opportunity for investigation and reporting on individual problems. First session. Daily 8:40. Room 207. Credit arranged.
Harder

HORTICULTURE

L. H. POLLARD, Professor and Head of Department; ALVIN R. HAMSON, Associate Professor; ROBERT A. NORTON, ROBERT K. GERBER, Assistant Professors; OTTO RIETHMANN, Instructor.

* Courses in advanced Horticulture may be arranged with the class instructor and the Head of the Department.

HOUSEHOLD ADMINISTRATION

UNA VERMILLION, Dean

150. *Home Management House*. Residence students are directed in practical management of home experiences. Required of all students majoring in the School of Home and Family Living. Prerequisites: HA 149, F & N 24 and 25. Limited to 6 students. First session. TTh. 7:30. 4 Credits.
Staff

INDUSTRIAL EDUCATION

WILLIAM E. MORTIMER, Professor and Head of Department

OWEN SLAUGH, Assistant Professor

DAN H. SWENSON, Assistant Professor

ROBERT A. TINKHAM, Visiting Faculty

I.E. 13. *Driver Training*. For persons who desire to learn to drive an automobile correctly and safely. Traffic rules and regulations essential to sound driving; physical qualifications and tests of drivers; general mechanics, operations, and servicing of automobile; highway safety engineering; and actual supervised training in dual-control cars. 2 Credits. First session. Daily 2:10-4:20, Lab. arranged, T-7.
Slaugh

I.E. 74. *Woodwork for Everyone*. This class is open to all who have a desire to work with wood, both men and women. Instruction is given in the fundamentals of woodwork and includes training in the use of both hand tools and woodworking machines. Projects are selected and built by students; a wide latitude in the selection of projects is afforded. Special emphasis is given to wood turning. Instruction is also given in furniture repair and in the basic principles of wood finishing and re-finishing. 3 Credits. First session. Daily 7:30-10:50. MA-166.
Swenson

I.E. 102. *Instructional Aids*. Instruction in the purpose, types, sources, preparation and proper use of audio and visual aids, including samples,

models, charts, graphs, slides, still film, movie film, sound film, and other aids suitable for classroom and auditorium use. Prerequisites: I.E. 107 and 129. 3 Credits. First session. Daily 7:30, MA-219. *Tinkham*

I.E. 111. *The General Shop.* Comprehensive study of the types of "General Shop," their advantages and limitations; content and organization of subject matter; methods of teaching and shop plans. General shop projects, shop plans and new trends in content and equipment are given special consideration. Prerequisite: I.E. 107. 3 Credits. Second session. Daily 7:30, MA-219. *Mortimer*

I.E. 113. *Driver Education and Traffic Safety.* To acquaint prospective teachers and others with available instruction materials for driver education and the latest methods of presenting these materials in the classroom and on the road. Supervised practice is arranged for each student. 3 Credits. First session. Daily 2:10. Lab arranged. T-7. *Slaugh*

I.E. 124. *History of Industrial Education.* Historical developments of manual and industrial education from the early leaders to the present. Emphasis is given to the influence that various leaders and movements, in both Europe and America, have had upon present-day objectives of industrial arts and vocational industrial education. 3 Credits. First session. Daily 1:00, MA-110. *Mortimer*

I.E. 167. *Special Problems in Industrial Education.* For qualified students majoring in Industrial Education who wish to do specialized work not covered by other courses. Time and credit arranged. Section 1. First session. Section 2. Second session. MA-104. *Mortimer*

I.E. 174. *Art Woodwork.* Decorative means that craftsmen employ for artistic appeal. Art turning, chip carving, band saw shaping, scrolling, twisted turning, inlaying and overlaying. Consideration is given decorative effects obtained by two-tone staining bright colored stains and lacquers, burning and fine polishing. Prerequisite: I.E. 63. 3 Credits. First session. Daily 1:00-4:20, MA-166. *Svenson*

I.E. 209. *Course of Study Building in Industrial Education.* Teaches students to prepare and use a course of study consisting of the outline, analysis, progress charts, lesson plans, instruction sheets, references, tests, and instructional schedule. Each student completes this work for one unit of instruction. Prerequisite: I.E. 107. 3 Credits. First session. Daily 8:40, MA-220. *Mortimer*

I.E. 254. *Measurement in Industrial Education.* Construction and use of the various types of tests and rating scales used in Industrial Education. Emphasis is placed upon measurable factors in industrial education and the types of tests best suited to this field. The elements of statistical methods necessary for intelligent use of the tests are covered. Prerequisite: Psychology 102. 3 Credits. Second session. Daily 9:50, MA-219. *Mortimer*

I.E. 267. *Reading and Conference.* Provides for study in advanced and specialized problems in Industrial Education. Problems are selected with approval of the department head. Investigation is carried on under direction of the major professor. Time and credit arranged. Section 1. First session. Section 2. Second session. MA-104. *Mortimer*

I.E. 271. *Research and Thesis Writing.* Provides for individual work in thesis writing in Industrial Education. The thesis is written in accordance with standard thesis requirements and under the direction of the major professor. Time and credit arranged. Section 1. First session. Section 2. Second session. MA-104. *Mortimer*

I.E. 275. *Workshop in Project Development.* A workshop for Industrial Arts teachers with emphasis on the design of projects for modern Industrial Arts shops. This course is planned to meet the needs of teachers for better designed projects which are in harmony with present day trends. 3 Credits. First session. Daily 9:50, MA-219. *Tinkham*

JOURNALISM

JOHN J. STEWART, Assistant Professor

112. *Writing Feature Articles.* Lectures and practice in preparing feature articles for newspapers and magazines. Analysis of periodicals is made to determine available markets and what editors buy. 3 Credits. 2:10, M 178. First session. *Stewart*

191. *High School Publications.* Designed to help teachers who have responsibilities in serving as advisors to school magazines, newspapers, or year books. 3 Credits. 11:00, M 178. First session. *Stewart*

LIBRARY SCIENCE

MILTON ABRAMS, Associate Professor and Chairman
 RUSSELL DAVIS, JAMES TOLMAN, Assistant Professors
 LEON BEUTLER, Instructor
 ALFRED STEFFERUD, Visiting Lecturer

Library Science may be used as a teaching minor in connection with a major in Education. This course prepares the student for a librarian certificate as issued by Utah State Board of Education and for a position as school librarian on the elementary or secondary level. A teaching minor of not fewer than 18 credits must be selected from Library Science courses.

The courses required for an Elementary library certificate are English 122, L.S. 120, and L.S. 150; for a high school library certificate: L.S. 120, L.S. 150, and L.S. 155.

The following elective courses may be used to satisfy the requirements of the Northwest Association of Secondary and Higher School Standards of 30 hours for a library position in high schools of more than 300 students. Education 161, 107; English 122, Speech 118.

50. *Reference Materials.* Basic reference tools and an introduction to the library. 3 Credits. First session. Daily 7:30 a. m. TJ 6. *Tolman*

100. *Advanced Reference and Bibliography.* Principal reference materials in the major subject fields. Methods of bibliography. Prerequisite Library Science 50. 3 Credits. First session. Daily 9:50 a. m. TJ 6. *Tolman*

113. *Book Repair and Binding.* Limited to Library Science minors. 2 Credits. First session. Time arranged. TJ 6. *Beutler*

120. *Cataloging and Classification.* Dewey decimal system of arranging books in an orderly fashion and the methods of preparing a library card catalog. 2 Credits. First session. Daily 8:40 a. m. TJ 6. *Davis*

150. *Library Administration.* Procedures and techniques of library operation. 3 Credits. First session. Daily 11:00 a. m. TJ 6. *Davis*

155. *Book Selection.* The materials used and records required in ordering books. 3 Credits. First session. Daily 1 p. m. TJ 6. *Tolman*

170 *Reading and Conference.* Time and credit arranged. Limited to Library Science minors. Instructors approval required. First session. Time and credit arranged. TJ 6. *Staff*

Rural Reading Conference (11 a. m. Lecture for 1 week, July 8-12, Auditorium. *Steffered*

MATHEMATICS

NEVILLE HUNSAKER, Professor and Head of Department
 MARY NELSON, Associate Professor

34. *Introduction to College Algebra.* Prerequisite: one year of high school algebra. Students who have had more than one year of high school

algebra are not given university credit for mathematics 34. First session. 3 credits. 8:40 to 9:40. *Hunsaker*

44. *Plane Trigonometry*. Prerequisite: Math 35. 3 Credits. Second session. 8:40 to 9:40. *Nelson*

97. *Analytical Geometry*. Prerequisite: Math 35, and 44 or 46. 5 Credits. 9:50-10:50. Offered both sessions. First session — *Hunsaker*
Second Session — *Nelson*

MODERN LANGUAGES AND LATIN

MARION L. NIELSEN, Professor and Head of Department

German

1. *Elementary German*. 5 credits. Daily 8:40-10:50. First session. *Nielsen*

2. *Elementary German*. 5 credits. Daily 8:40-10:50. Second session. *Nielsen*

110. *Scientific German*. Reading of scientific texts. Reports. Open to students after completion of 101 or equivalent. 2 credits. First session. MTWTh. 1:00 p. m. *Nielsen*

111. *Scientific German*. Reading of scientific texts. Reports. Open to students after completion of 101 or equivalent. 2 Credits. Second session. MTWTh. 1:00 p. m. *Nielsen*

MUSIC

JOHN PHILIP DALBY, A. L. DITTMER, ANDREW GALOS, IRVING WASSERMANN, Associate Professors.

VISITING FACULTY

MAX DALBY, EARL ERICKSON, MARIE T. JEPSON, GENE JORGENSEN, CLARENCE F. SAWHILL, EDWARD STEUERMANN

115. *Introduction to Musicology*. A discovery of the fields of musicological research and a criteria of source materials for the various phases of musical study. 3 Credits. 2:10 daily. First session. *Dittmer*

150. *Elementary School Music*. Application of music to the elementary classroom. Problems, methods and materials in singing; rhythm, creative music, reading and appreciation. 3 Credits. 1:00 daily. First session. *Dittmer*

155. *Music Handicrafts*. A workshop course in the construction and study of easily played and informal musical instruments from those of the rhythm band to instruments of adult appeal and of commercial quality. All instruments are simple in construction, and utilize inexpensive and easily obtainable materials and tools. Class members have a choice of patterning instruments from over 65 different models, or can develop their own ideas. No previous musical training is necessary. 1-3 credits. First session. Time arranged. *Jeppson*

258. *Seminar in Music Education*. Teaching and administration of the various phases of the music program. Special projects. Students registering for three full credits for the five week term should register for 258. Students registering for one hour credit (June 17-28) register for 258-A. 12 daily. First session. 3 Credits. *J. P. Dalby*

UTAH STATE SUMMER MUSIC CLINIC

JOHN PHILIP DALBY, Chairman

The Utah State Summer Music Clinic serves two functions. It offers to high school students the opportunity to broaden and deepen their musical understanding and experience under the instruction of expert

teachers of local and national reputation. It offers music teachers, supervisors, and university students the opportunity to observe the instruction of high school students while pursuing advanced work in their respective fields.

*154. *Instrumental Repair and Maintenance.* Procedures used in the repairing of musical instruments. Designed for the practical use of the band and orchestra teacher. The proper adjustment and maintenance of woodwind, brass, and percussion instruments. 1 Credit. June 17-28. Daily 5:00.
Erickson

*251. *Advanced Choral Methods.* Rehearsal techniques and materials to use with the secondary school choir. The study of phonetics and its relation to good choral sound. 1 Credit. First session. 3:00 daily, June 17-28.
Jorgensen

*252. *Advanced Orchestra Methods.* Techniques of training the school orchestra. A consideration of special problems relating to the string instruments. 1 Credit. First session. June 17-28. Daily 9:00. *Galos*

*253. *Advanced Band Methods.* Teaching of the school band with special reference to tone quality, intonation and balance in the ensemble. A consideration of new band materials. 1 Credit. First session. 1:00 daily.
Sawhill

*258a. *Seminar in Music Education.* June 17-28. For students registering for one hour credit. 12:00 Daily.
M. Dalby

Piano Clinic - June 10-28, 1957.

116. *Literature of the Piano.* A consideration of selected masterworks for the piano and its precursors, from J. S. Bach and D. Scarlatti through the works of Beethoven. 2 Credits. 9:50 M.W.F.
Wassermann

142. *Piano Ensemble.* Practice in ensemble playing in groups adjusted to the advancement of the players. 2 Credits. 8:40 M.W.F.
Wassermann

160. *Piano, Individual Instruction.* One private lesson per week. Students enrolled for private piano may audit lessons being given other students during the piano clinic. Credit and time arranged.

Steuermann - Wassermann

161. *Piano Master Class.* Demonstrations and discussions of problems in artistic piano performance. One hour credit. 9:50 T.Th.

Steuermann

163. *Piano Workshop.* An intensive course for advanced piano students and piano teachers, comprised of lectures on basic harmony, piano techniques, memorization, building repertoire, and teaching materials. June 24, 25, and 26. 9:00 to 4:00. 1 Credit.
Wassermann

POLITICAL SCIENCE

M. R. MERRILL, Professor and Head of Department

M. JUDD HARMON, Assistant Professor

126. *Soviet Government and Politics.* Designed to present the structure and functioning of Soviet government and the Communist system. Attention is also given to the theoretical background of government and party practices in modern times. 3 Credits. First session. 8:40. M 353.

Harmon

150. *Recent Political Thought.* Political ideas and political thinkers from the Utilitarians to the present time, with special emphasis on study of Karl Marx and his successors in Communist political philosophy. First session. 7:30. M 353. 3 Credits.
Harmon

*Two week courses, June 17-28 only.

HEALTH, PHYSICAL EDUCATION AND RECREATION

H. B. HUNSAKER, Professor and Head of Department; LOIS DOWNS, DALE O. NELSON, Associate Professors; RAY WATTERS, PAULINE FULLER, LINCOLN McCLELLAN, Assistant Professor; ARTHUR MENDINI, Instructor.

VISITING FACULTY

CHARLES TAYLOR, FRANK MCGUIRE, TONY ROBELLO, JACK ROCKWELL, VAUGHAN GORDON, ELWOOD C. DAVIS.

Coaching School, June 3 - 7

- 120a. *Football Coaching School* 1 credit. Daily a.m. June 3 to 7 inclusive. Taylor
- 120b. *Basketball Coaching School*. 1 credit. Daily p.m. June 3 to 7 inclusive. McGuire
- 120c. *Baseball Coaching School* 1 credit. Daily. June 3 to 7 inclusive. Robello
- 120d. *Athletic Training School*. 1 credit. Daily. June 3 to 7 inclusive. Rockwell

Activity Courses

25. *Tennis* (Elem.) Men and Women. 1 credit. Offered both sessions. Courts. First session — Section 1. 9:50. Nelson
Section 2. 1:00. Downs
Second session 8:30. McClellan
48. *Elementary Modern Dance*. 1 credit. Second session. 9:50. W.G. Fuller
52. *Swimming*. (Elem.) 1 credit. Offered both sessions. First session 2:10. Staff
Second session 1:00. Watters
61. *Archery*. 1 credit. Second session. 7:30. FH. McClellan
66. *Badminton*. 1 credit. First session. 8:40. MG. Staff
73. *Golf*. 1 credit. Offered both sessions. MG. Downs
First session 9:50. Watters
Second session 9:50.

Professional Courses

81. *Rhythms and Dramatic Games*. Music for young children; its use in creative movement. Methods of presenting and developing rhythms are studied. 2 credits. Second session. 1:00. WG. Fuller
108. *Adapted Physical Education*. This course includes the administration of a corrective physical education program in addition to a study of abnormal problems in body mechanics, Athletic injuries and their treatment, Athletic training procedures, and principles dealing with abnormal conditions found in the physical education program. 3 Credits. First session. 7:30. G-30. Nelson
131. *Techniques in Physical Education*. A professional course, designed to develop teaching techniques in gymnastics, tumbling, trampoline and speedball. 2 Credits. Second session. 9:50. MG. McClellan
132. *Water Safety Instructor's Course. Life Saving*. Prerequisite: American Red Cross Senior Life Saving certificate and permission of the instructor. Special attention is given methods of teaching swimming, diving, life-saving and use of small water crafts. Proper American Red Cross certi-

fication is given students who pass the examination. 2 Credits. First session. 1:00. *Nelson*

151. *Techniques of Dance*. Techniques of a variety of dance types with emphasis on ballet and modern. 2 Credits. Second session. 8:40. WG. *Fuller*

157. *Field Work in Recreation*. (Prerequisite approval of department head.) This course is designed to give practical experience in conducting recreational programs at playgrounds and campus under the supervision of the university recreation staff and the director of the program to which the individual is assigned. Students will be expected to plan and conduct programs in a variety of activities applying principles, methods, and techniques gained in his prerequisite work. Credit and time arranged. *Hunsaker*

176. *Leadership in Camping*. Men and Women. Designed for Physical education and recreation leaders. Precamp training class in campcraft, camp cookery, first aid, safety, equipment, and menu planning. Bus trip to "high country." Hiking, camping, fishing, return by bus. (Lab. fee). 3 Credits. Second session. July 15-26. MG. *Hunsaker*

182. *Material and Methods of Elementary School Physical Education*. Practical experience in, participation in, and direction of activities in the well balanced physical education program. Students teach at all grade levels in local elementary schools. 3 Credits. First session. 8:40. MG. *Downs*

193. *Leadership in Recreation* - June 10-28. A workshop designed to develop leadership in various recreation activities. The course is divided into three sections: Social Recreation Techniques, Social and Square Dance Recreation, Outdoor Recreation. The organization will be as follows: 3 Credits, 2-4 daily; 4½ Credits, 9-11 and 2-4 daily.

193a. *Social Recreation*. June 10-14. 1½ Credits. 9-11 daily; 2-4 daily. *Staff*

193b. *Social and Square Dancing*. June 17-21. 1½ Credits. 9-11 daily; 2-4 daily. *Gordon*

193c. *Outdoor Recreation*. June 24-28. 1½ Credits. 9-11 daily; 2-4 daily. *Mendini*

250. *Reading and Conference*. Credit and hour arranged. First session. Provides for individually directed study. *Hunsaker*

256. *Curriculum Construction and Methods in Health Education in Secondary Schools*. 3 Credits. First session, 9:50 daily. G 30 *Davis*

271. *Research and Thesis*. Time and credit arranged. Offered both sessions. *Hunsaker*

275. *Philosophy of Physical Education*. Divergent origins; conditions, leaders, and forces giving rise to current basic beliefs about Health, Physical Education, and Recreation; development of an individual professional philosophy. Daily at 1:00 p. m. 3 Credits. *Davis*

295. *Problems in Physical Education*. 3 Credits First session. 8:40. Seminar. *Hunsaker*

299. *Physical Education Seminar*. 3 Credits. Second session. 8:40 daily. G 27. *Watters*

PHYSICS

JOHN K. WOOD, Professor and Head of Department
JAY O. JENSEN, Assistant Professor

Physics 3. *Introductory Physics*. A non-technical course for students who do not expect to major in sciences but who want understanding of

fundamental physical principles and their applications. First session. 5 Credits. Room W 108. 8:40 to 10:50. *Jensen or Wood*

Physics 20. *Mechanics and Molecular Physics*. 5 Credits. Both sessions. Room W 108. 7:30 to 8:30. Lab. *Jensen or Wood*

PHYSIOLOGY

D. M. HAMMOND, Professor and Head of Department

THOMAS L. BAHLER, Associate Professor

GENE H. LINFORD, Assistant Professor

4. *General Physiology*. For the student who desires a survey of physiology and who is not planning advanced intensive study in the field. It deals with the functioning of the human body with emphasis upon broad general biological principles. Second session. 5 Credits. 8:40-10:50. C212. *Linford*

200. *Special Problems, Physiology*. The student who wishes to engage in some line of original research and is qualified to do so may elect and study some topic of Physiology. Open to undergraduates only by special arrangement with the department. Either or both sessions. Credit arranged. *Staff*

POULTRY

C. I. DRAPER, Professor and Head of Department

1. *General Poultry*. Breeds, judging, incubation, brooding, feeding, marketing, designed to meet the needs of the students wishing a general knowledge of the poultry industry and the problems of production, and a foundation upon which other courses are built. Three credits. First session. Daily at 7:30 a. m. AI 303. *Staff*

107. *Poultry Feeds and Feeding*. A study of the nutritive requirements of poultry, the composition of poultry feedstuffs, methods of feeding and formulation of rations for special needs. Prerequisite: Poultry 1. Second session. 3 Credits. 7:30 a. m. AI 303. *Staff*

125. *Special Problems*. Time and credit arranged. Both sessions. AI 201. *Staff*

210. *Poultry Research*. Time and credit arranged. Both sessions. AI 201. *Staff*

PSYCHOLOGY

ARDEN N. FRANDSEN, Professor and Head of Department

DAVID R. STONE, HEBER C. SHARP, Associate Professors

PARRY WILSON, Assistant Professor

102. *Educational Psychology*. For secondary teachers. A professional course for prospective high school teachers intended to increase understanding of adolescents and to develop insight into conditions for effective learning. Applications to development in adolescence, to provisions for individual differences, and to learning junior and senior high school subjects are emphasized. Prerequisite: General Psychology. 5 Credits. Second session. 8:40-10:50. *Stone*

105. *Child Psychology and Development*. The roles of maturation, learning, and environmental conditions in the motor, mental, social, and emotional development in children from birth to adolescence. Generalizations with respect to dynamics of personality, individual differences, emotions, motivation, how children learn, observe, and think are applied to understanding and guiding children's behavior in home, school, and community. Opportunity for observation and applications of psychological methods of child study in the school is provided. Prerequisite: General Psychology. 3 Credits. First session. 8:40. *Frandsen*

112. *Application of Statistics to Education and Psychology.* Elementary study of statistical procedures used in handling test scores in schools and of the concepts needed to read current educational and psychological literature. May be taken by last quarter sophomores who have taken General Psychology. 3 Credits. First session. 8:40. *Sharp*

123. *Psychology of Exceptional Children.* The development and behavior characteristics of exceptional children and of the education, home management, social control, and psychological treatment, suited to their needs. The groups included are the mentally deficient, physically handicapped, the gifted, and children having serious personality and conduct problems. 3 Credits. First session. 7:30-8:30. *Sharp*

145. *Mental Hygiene.* Designed for teachers and other workers in social occupations. Based on the philosophy that a knowledge of the factors which influence mental health should be in the possession of all who work with people. Intended to promote understanding of emotional and social adjustment and as a basis for guiding children, adolescents and adults toward improved mental health. Prerequisite: General Psychology. 3 Credits. Second session. 7:30. *Sharp*

183. *Theory and Techniques of Counseling.* Principles and techniques of counseling students on problems of curriculum planning and vocational choice, on problems of improving methods of study, and on problems of emotional and social adjustment will be studied. Applications will be made also to administrative, supervisory teaching, and other interpersonal relations situations. 3 Credits. First session. 1:00. *Wilson*

200. *Advanced Educational Psychology High School.* A study, from firsthand sources, of the principles of educational psychology as applied in teaching high school students, including the conditions of effective learning, development in adolescents, and provisions for individual differences, and guidance. In addition to extending the student's understanding of these topics, problems for graduate thesis will be suggested. 3 Credits. First session. 9:50. *Stone*

208. *Learning in the Elementary School.* Advanced study, from the points of view of learning theory and experiments in elementary education and child psychology, of the aims, curriculum, methods of teaching, provisions for individual differences, and evaluation of outcomes in the elementary school. Intended especially for supervisors, principals, and teachers of the elementary school interested in graduate study. Thesis topics are suggested. Provision is also made for undergraduate students who need the course Psychology 108 for certification. 3 Credits. First session. 9:50. *Frandsen*

213. *Organization and Administration of Guidance.* Development and evaluation of plans for utilization of school and community resources in guidance. 3 Credits. First session. 2:10. *Wilson*

214. *Independent Readings in Psychology.* This course provides opportunity for independent readings and conferences on topics selected by the student. 2 Credits. First session. Time arranged. *Staff*

217. *Research for Master's Thesis in Psychology.* Credit and time arranged with the approval of a member of the Department of Psychology. First session. *Staff*

281. *Psychometrics Applied to Guidance.* For school counselors, personnel workers, social workers, and clinical psychologists. Consideration is given selection, evaluation, administration, interpretation, and practical uses of tests of intelligence, aptitudes, interests, personality and quality of personal and social adjustment. Prerequisites: General Psychology and Elementary Statistics. For seniors or graduate students. 5 Credits. Second session. 1:00-3:10. *Wilson*

SECRETARIAL SCIENCE

INA DOTY, Associate Professor; W. V. TEZAK, Assistant Professor

41. *First-Quarter Type*. For students who have had no previous training in typewriting. Designed to develop a thorough knowledge of the keyboard and machine parts. Personal-use typing problems, centering, letter styles. Daily 7:30. M306. 1 Credit. First session. Doty

41. *First-Quarter Type* (continuation). A class designed for students who have taken SS 41 during first session. Second session. Daily 7:30. M. 306. 1 Credit. Tezak

65. *Indexing and Filing*. Practice in alphabetic, numeric, triple-check automatic, subject, decimal, geographic, and soundex methods of filing. First session. Daily 8:40. 3 Credits. M305. Doty

92. *Business Machines*. Basic training in use of ten-key adding machines, full-keyboard adding listing machines, and rotary calculator machines. First session. 2 Credits. 9:50. M 307. Doty

175. *Office Management*. Emphasis on principles of office management, duties and responsibilities of the office manager; types of organization; methods of control; office arrangement and equipment; job analyses selection, employment, and training of employees. Prerequisites: Bus. Adm. 1 and 2 and Econ. 51 and 52. 3 Credits. First session. 1:00. M 308. Tezak

SOCIOLOGY AND SOCIAL WORK

R. WELLING ROSKELLEY, Professor and Head of Department

CARMEN FREDRICKSON, Associate Professor

JAY SKIDMORE, Assistant Professor

VISITING FACULTY

WILLIAM H. REEDER, MARJORIE COSGROVE

70. *Introductory Sociology*. Offered for students in all schools and departments of the college. Emphasis is placed upon developing the student's understanding of the social world about him, and how his social experience contributes to his personality development. 5 Credits. First session. Daily 8:40. M. 356. Fredrickson

120. *Education for Marriage*. Self understanding and preparation for marriage; courtship, engagement, values and marriage, adjustments in marriage. Intended for married students, those considering marriage, and those teaching or working with adolescents or young adults. 2 Credits. First session. Two weeks, June 24-July 5. Daily 1-3. Cosgrove

143. *Leadership and Group Productiveness*. This is an applied course on leadership. Current theories and principles of leadership are studied in relation to the main problems which are encountered by organizations and group leaders. This course is designed for persons who are group leaders themselves. 3 Credits. First session. 9:50. Reeder

160. *Family Relations*. The social-emotional development of the child in the family; marital adjustment; social-culture difference in family behavior; problems; ideological considerations. Prerequisite: Soc. 60. 3 Credits. Second session. 9:50. M. 357. Skidmore

175. *Leadership in Community Living*. Understanding the community. Acquiring understanding and attitudes essential to effective individual functioning in a democratic society. Uses of workshops and other techniques as community organization procedures. 3 Credits. First session. Reeder

263. *Marriage Counseling*. The philosophy, principles and techniques of pre-marital and marriage counseling. 3 Credits. Second session. 7:30. M. 357. Skidmore

SPEECH

CHESTER J. MYERS, Professor and Head of Department
BURRELL F. HANSEN, Associate Professor

4s. *Principles of Reading.* Effective oral and silent reading of literary selections. A preparatory course for understanding and appreciation of the printed page. Practice material includes both standard literature and reading matter. 3 Credits. 9:50. M 203. Second session. *Myers*

5s. *Extempore Speech.* Designed to meet the specific needs of professional people in the practice of their professions. Basic principles of effective speaking, with emphasis on composition and delivery of the forms of address of greatest interest to those for whom the course is provided. 3 Credits. 8:40. M 203. Second session. *Myers*

82s. *Radio and T.V. Speech.* Analysis and development of the speech skills and speech forms as applied to radio. Development of acceptable standards of voice and articulation for radio presentation is emphasized. Effective organization and presentation of the various speech types utilized on the air-announcements, talks, program continuities, interview round-tables are included. 3 Credits. 8:40, M 204. First session. *Hansen*

118s. *Story-Telling.* Analysis and classification of typical stories with reference to periods of the child's development. Consideration is given stories of western pioneer life. Especially for the student teacher, recreation leader, church activity leader, librarian, and parent. Credit 3. 9:30, M 203. First session. *Myers*

124s. *Advanced Interpretation.* The mastering of significant selections from great writers. Reading from manuscript and from memory. 3 Credits. 8:40, M 203. First session. *Myers*

181s. *Radio Production.* Study and studio practice in problems in directing and producing various kinds of broadcasts. Planning programs, casting and rehearsal procedures, co-ordination of technical aspects of production, and problems in special studio effects are considered. Registration limited to upper classmen. Credit 3. 9:50, M 204. First session. *B. F. Hansen*

190. *Problems in Speech.* Especially selected work, individually assigned, handled and directed in consultation with the student. Special Speech problems of merit and of mutual interest to students and instructors are investigated and reported upon in this course. Consult the instructor for permission to register. Credit and time arranged. First and second session. *Staff*

200. *Seminar in Speech.* Emphasis on the various fields of Speech, Research problems. Time and credit arranged. Either session. *Staff*

201. *Thesis.* Prerequisite: Graduate standing. Time and credit arranged. Either session. *Staff*

VETERINARY SCIENCE

MERTHYR L. MINER, Professor and Head of Department; LEGRANDE SHUPE, Associate Professor; JOSEPH L. THORNE, JOSEPH T. BLAKE, Assistant Professors.

50. *Artificial Insemination of Cattle.* Outlined for training students in artificial insemination of cattle and to train technicians for doing insemination in the the Artificial Breeding Associations in the State. Fulfills the requirements for the qualifications necessary for the student to be eligible to take the State Board Examination. 3 Credits. Daily 8-5. June 3-15. First session. *Staff*

120. *Animal Hygiene.* Daily 7:30, 4 Credits. First session. Lab. *Staff*

ZOOLOGY

D. M. HAMMOND, Professor and Head of Department
 GENE H. LINFORD, Assistant Professor
 E. E. DEVEREAUX, Visiting Faculty

1. *Principles of Biology.* Basic principles of life as illustrated in plants and animals, with emphasis on concepts of fundamental importance, including organization of living things, energy relationships, growth, relation to environment, kinds of living things, reproduction, development, inheritance, and evolution. For lower division students, except those who elect Botany 24, 25 or Zoology 2 or 3 and 4. 5 Credits. First session. Daily 8:40-10:50. M 225. *Linford*

6. *Taxidermy.* Methods and techniques of biological preparations and commercial taxidermy are given thorough consideration. Each student will mount one bird, one mammal, and one fish. He will use the plaster-rubber technique to reproduce a fish, frog or reptile. He will tan a skin and make up a small rug or other fur piece. Some work will be done with buckskin. The regulations and practices of the taxidermy business will be considered. 3 Credits. Second session. Daily 1:00-4:20. M 230. *Deveraux*

123. *Natural History of Animals.* Teachers and other students of nature will receive help in learning the names and distribution of birds, mammals, frogs, reptiles, fishes, insects, etc., in this course; also interesting and useful facts concerning their habits, homes and uses to man. Methods and materials for teaching nature study and biology in the elementary and secondary schools will be considered, including such procedures as the collection and preparation of specimens for study, display and storage, using homemade or moderately priced equipment. First session. Daily 1:00, with two short field trips arranged. 3 Credits. *Linford*

201. *Special Problems, Zoology.* The student who wishes to engage in some line of original research and is qualified to do so may elect and study some topic of Zoology. Open to undergraduates only by special arrangement with the department. Either or both sessions. Credit and time arranged. *Staff*

240. *Research and Thesis, Zoology.* Research connected with problem undertaken for partial fulfillment of requirements for an advanced degree. Either or both sessions. Credit and time arranged. *Staff*

Teaching of Biology in High School (See Education) Edu. 151.

Methods and materials for teaching high school biology. Methods of teaching student how to study text, how to use work book or laboratory manual and use of review books. Use of projects and laboratory teaching techniques. Preparation of lesson outlines. Discussions on biology and chemistry as a means of stimulating a student to become a scientist. Special considerations to be given the gifted student and the slow student. Methods of securing discipline and preventing little problems from becoming big ones. 3 Credits. Second session. 7:30. *Deveraux*

LIVING ACCOMMODATIONS

Nearly any type of accommodations desired can be obtained through the University Housing Office or private home owners.

Many Logan City residents list their apartments, rooms or board and room accommodations with the University Housing Office, Room 133, Main Building. Such listings may be had by anyone who wishes to call for them. The Housing Office has the following accommodations available for Summer School students:

Lund Hall offers campus dormitory accommodations for single men and women. *Lund Hall* because of its size will also be available for some

teachers or married couples without children who wish to remain on the campus. Some limitation in reservations for this hall is made so those desiring to live there should make reservations as early as possible.

University Apartments are available for couples or families on a monthly basis.

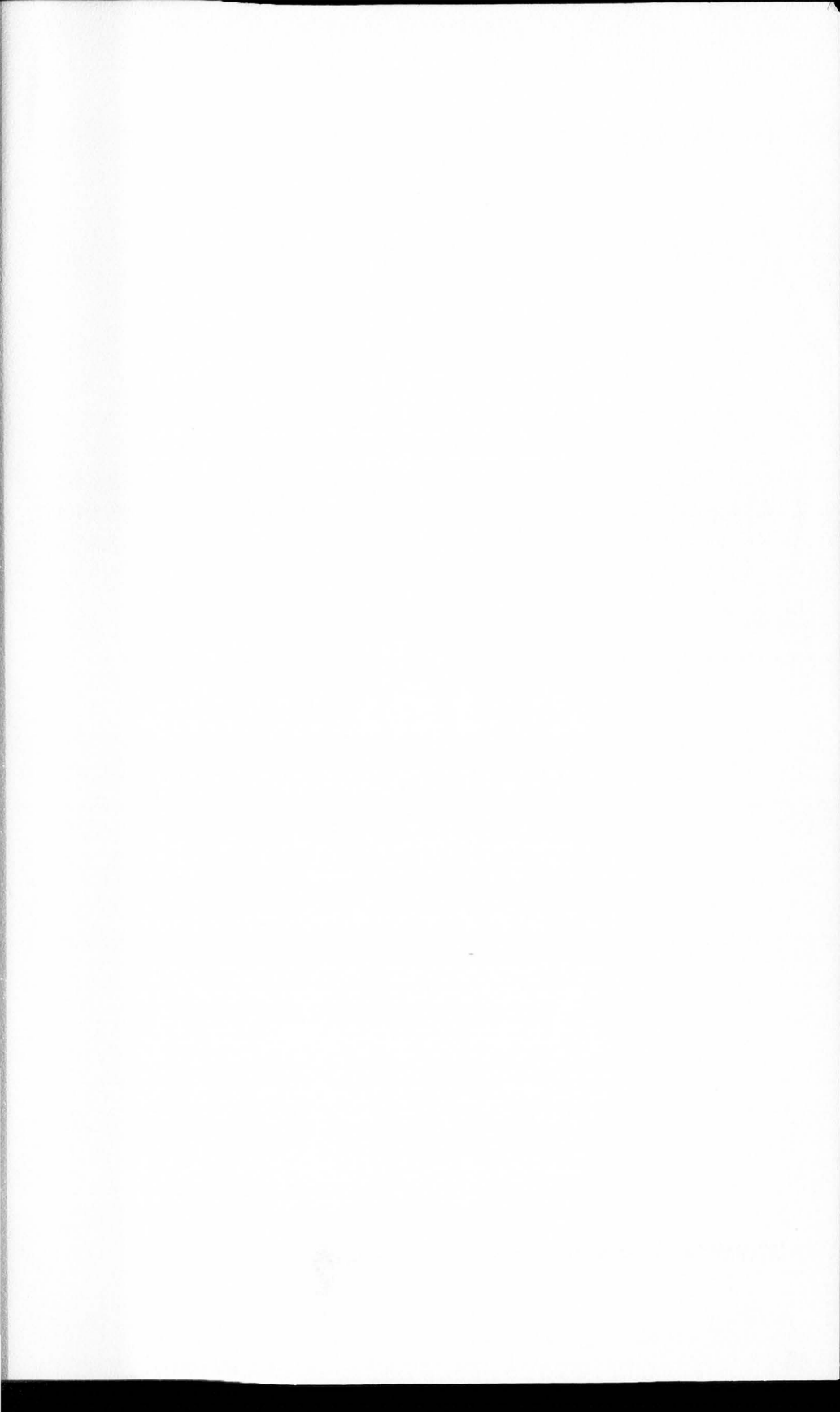
REGISTRATION

Registration procedure at the University are made more convenient for all concerned if the student submits an application in advance. Write for registration application to:

The Registrar
Utah State University
Logan, Utah

or

Director of Summer School
Utah State University
Logan, Utah



SPECIAL ATTRACTIONS Utah State Summer School

1957

CHEMISTRY INSTITUTE for Teachers of High School Chemistry
Sponsored by National Science Foundation
June 10 to July 19, 1957

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- First annual conference on Public Education — July 15-19.
- Annual Art Education Workshop designed to help regular classroom teachers — June 10-28.
- Annual Summer Music Festival and Clinic — June 17-28.
- Annual Family Life Institute . . . Featuring . . .
 - Education for Marriage — June 24 and 25.
 - Marriage and Family Relations — June 19 and 20.
 - Use of Community Resources for Effective Family Living— June 26 and 27.
- 31st Annual National Coaching School, featuring Basketball, Football, Baseball, and Athletic Training — June 3-7.
- The annual College Leadership Hike into the Heart of Primitive Western America — July 15-26.
- A visit to the World's Largest Bird Refuge on the shores of Great Salt Lake — June 20.
- Tour through World Famous Yellowstone National Park — July 4, 5, 6.
- Tour through Utah's Southern Parks and the Grand Canyon — July 4, 5, 6.
- Old Juniper Hike — America's Oldest Living Juniper Tree — June 27.