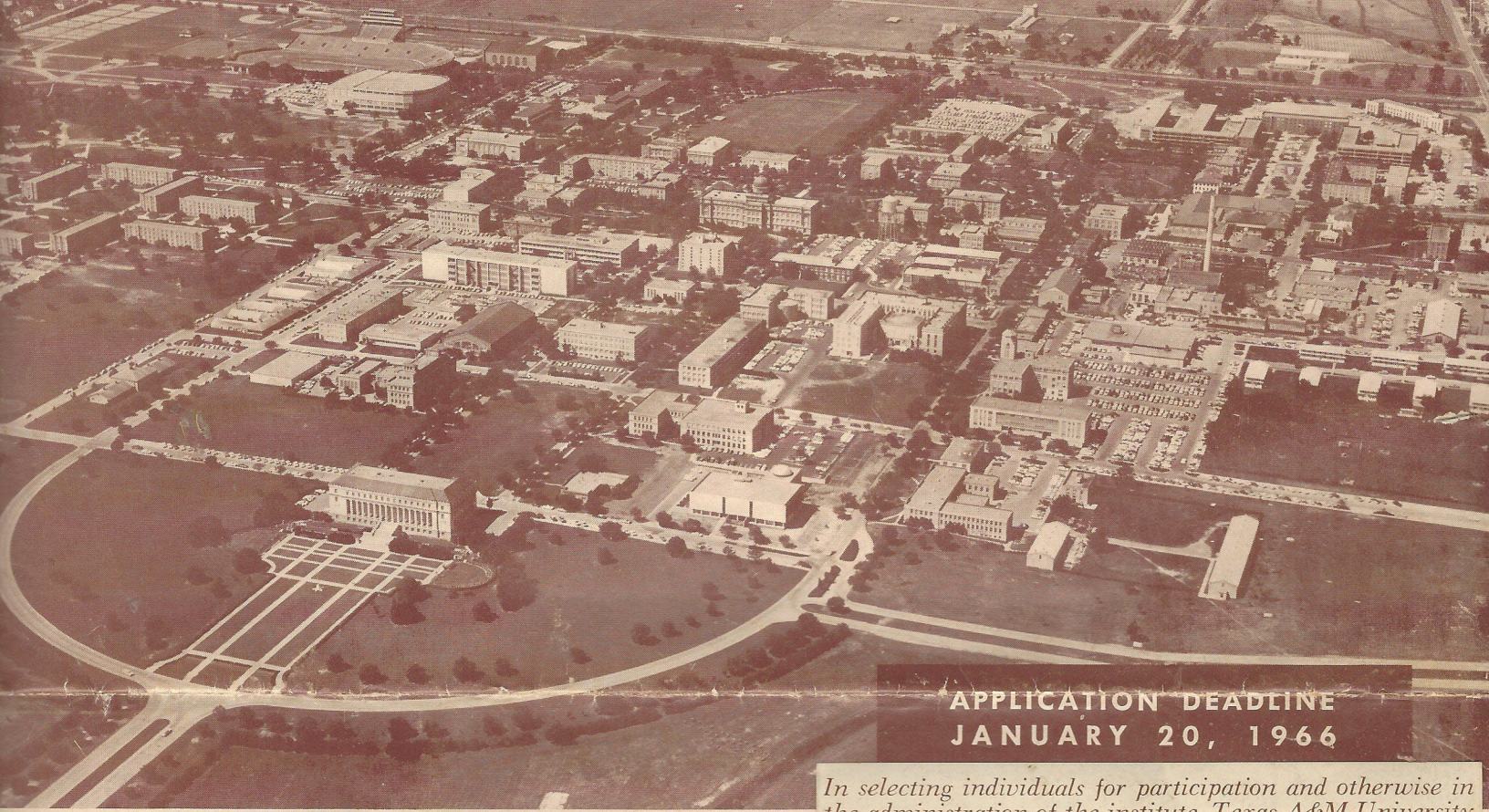


APPLICATION DEADLINE
JANUARY 20, 1966

In selecting individuals for participation and otherwise in the administration of the institute, Texas A&M University will not discriminate on the ground of the race, creed, color, or national origin of any applicant or participant.

TEXAS A&M UNIVERSITY

offers a National Science Foundation sponsored

Academic Year Institute 1966-1967

FOR JUNIOR HIGH SCHOOL SCIENCE TEACHERS

Designed to Strengthen Teacher Foundations in . . .

- ✳ BIOLOGY
- ✳ CHEMISTRY
- ✳ MATHEMATICS
- ✳ PHYSICS
- ✳ EARTH SCIENCES featuring
  - ASTRONOMY
  - METEOROLOGY
  - GEOLOGY
  - OCEANOGRAPHY

THREE YEARS TEACHING EXPERIENCE REQUIRED

- ✳ LIBERAL FINANCIAL SUPPORT
- ✳ MASTER'S DEGREE AVAILABLE
- ✳ 1966 PRELIMINARY SUMMER PROGRAM
- ✳ 1967 RELATED SUMMER PROGRAM

SEND A POST CARD for Application Forms to:

PROFESSOR C. M. LOYD, ASSOCIATE DIRECTOR
ACADEMIC YEAR INSTITUTE
TEXAS A&M UNIVERSITY
COLLEGE STATION, TEXAS

(Please Post)

Why an Institute especially for Junior High Science Teachers? . . .

A mastery of more areas of science is needed by junior high school teachers than by teachers at any other level; yet junior high school teachers are generally the least prepared in any of the sciences. In the majority of cases the same teacher is expected to teach in Astronomy, Botany, Chemistry, Electronics, Entomology, Geology, Meteorology, Microbiology, Oceanography, Physics, Zoology, and all related fields. His pupils are at a stage where a genuine understanding of the various sciences on the part of the teacher is essential if they are to develop to their fullest capacities.

The program of the Texas A&M University's fifth Academic Year Institute is presented below in the form of answers to the questions most commonly asked about any Institute program.

J. G. POTTER, *Director*, Academic Year Institute

Who will be admitted to the program?

As a condition of selection each participant must take certain tests mailed to him and be eligible for admission to the Graduate College. Generally *a grade point ratio of at least 1.5* (an average midway between a C and a B) for the last four semesters of undergraduate studies is essential for consideration for admission. Admission to the Graduate College will be formalized after preliminary selection is made. Junior high school teachers with inadequate preparation in several of the sciences will be considered (a) with at least three years of teaching experience, (b) who are teaching science practically full time, (c) who will have completed at least two semesters of College Chemistry and College Physics and one semester each of College Algebra and of College Trigonometry by September 1966; these last two courses may be taken in the preliminary summer program.

Is it possible to obtain a degree and what are the requirements?

Often a participant will gain the extra dividend of earning a master's degree, but this cannot be expected in all cases, because earning the degree in a single year imposes a very heavy burden even on those best prepared. The primary objective of the institute—to improve the participant's command of the various sciences—can be met whether or not the participant is able to meet all the requirements for an advanced degree.

Most of the institute work, however, may be applied toward the degree of Master of Education with a science option. Normal requirements for this degree—presupposing a minimum undergraduate preparation of 18 semester hours of education—are an acceptable program of 24 semester hours of science and mathematics and 12 semester hours of graduate work in education and psychology. An individual degree plan is developed for each candidate in consultation with his degree committee. The minimum requirements are mathematics through a first course in calculus and at least two science subject matter areas totaling 24 semester hours of undergraduate and graduate work and other courses to meet the teacher's needs. The final degree requirement is an oral examination taken in the month just preceding graduation. PURSUIT OF A DEGREE INCREASES THE PRESSURE ON THE INDIVIDUAL PARTICIPANT BECAUSE OF THE NECESSITY OF MAINTAINING A "B" AVERAGE IN THOSE COURSES ON HIS DEGREE PLAN.

What is the Preliminary Summer Program?

Those participants whose test scores indicate a need for more Algebra and Trigonometry, or who have never had these courses, will be required to enroll for them during the last 6 weeks of the 1966 summer session.

What is the Related Summer Program?

A special grant has been obtained to support participants in the summer of 1967 where it becomes apparent that the additional work will make the difference between completing requirements for the master's degree or not completing them.

May I attend both the Preliminary and Related Summer Programs?

Yes, but the total summer support may not be for more than 2 terms, i. e., 1 term in 1966 and 1 term in 1967 or 2 terms in 1967.

May I attend a 1966 Summer Institute?

If you inform the director of the summer institute that you have been selected to attend an Academic Year Institute and if the director of the Academic Year Institute approves in advance the courses to be taken.

What are some of the facts about the University?

Texas A&M University is the Land Grant University of the State. Its enrollment is about 9,500. In addition to strong undergraduate programs in the customary academic fields, the University has well developed graduate and research programs in the various sciences, including biochemistry; the various fields of engineering, including petroleum engineering; several branches of agriculture, with related biological disciplines; and in oceanography and meteorology. It has been conducting summer institutes (usually with some emphasis on physics) for secondary school science teachers annually since 1956 and is currently conducting an academic year institute similar to the institute herein announced. Women graduate students are now admitted to the University on the same basis as men, and student wives may be admitted as undergraduates.

What arrangements are made for meals on campus?

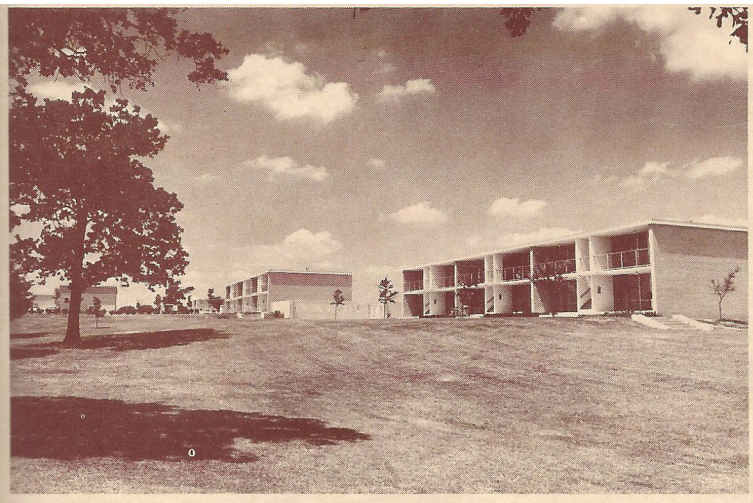
It is planned that participants will have lunch together once a week at the Memorial Student Center prior to the weekly seminar.

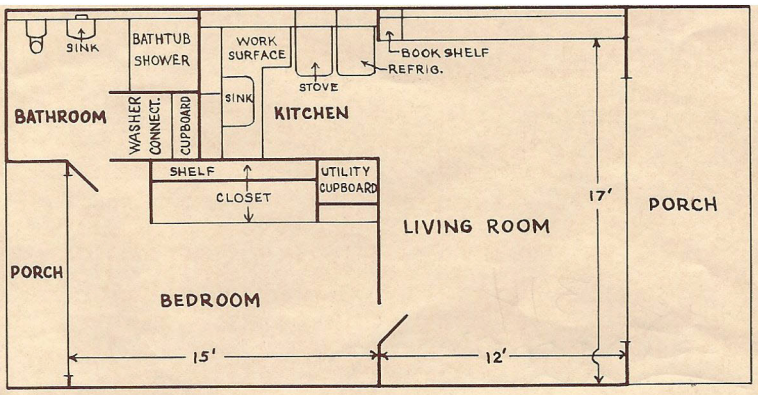
How much financial support can I obtain?

Funds from the National Science Foundation will provide stipends of $3,000 for the academic year to 30 participants, with a further allowance of $450 for each dependent up to a maximum of four, full tuition, travel allowance, and a book allowance. Additional sums will be available in the related and preliminary summer programs.

When and how will I be paid?

You will receive your stipend and dependency allowance in ten monthly installments beginning September 1, 1966. One-half of the travel allowance will be paid upon arrival and the other one-half of the travel allowance will be paid upon departure. Participants in the preliminary or related summer programs will be supported at regular summer institute rates; however, the total of such support may not exceed eight weeks.





Exterior View (left) and Floor Plan — Hensel Apartments

What divertissements are available?

In addition to the visiting scientists and educators who will be brought to the campus in connection with the Institute Seminar to discuss matters of special interest to junior high school science teachers, the regular Graduate Lecture Program brings distinguished scholars, and the Memorial Student Center brings outstanding statesmen and other speakers on world affairs for its Great Issues Lectures. There are famous artists and entertainers on the Town Hall Program. All University recreational facilities available to regular students will be available to institute participants.

Can you tell me something about the community?

College Station and Bryan constitute a community with a population of about 45,000 inhabitants located on State Highway #6, 170 miles southeast of Dallas, Texas and 100 miles northwest of Houston, Texas. The public schools compare favorably with most in the nation, and the communities support an outstanding extracurricular program for children. Texas schools do not operate kindergartens; however, private kindergartens are available. To be admitted to the first grade, a child must be six years of age before September 1.

The climate is favorable to out-of-door activities nearly all the time; however, air-conditioning is common, and the previous participants state that arrangements for air-conditioning should be made. In the winter, the temperature seldom drops below freezing. Most of the University classrooms and laboratories are air-conditioned. The provision of University housing for institute participants will enable those taking advantage of it to live together and in one neighborhood where they may study together and share professional experiences as teachers.

What housing is available?

A reservation will be made for all married participants in the University owned Hensel apartments. These are modern, brick, one bedroom apartments. The living room is equipped with a Simmons Hide-a-Bed large enough for two children. These apartments rent for $65.00 per month including utilities and the majority of the prior participants preferred them to any other housing in the community. After a participant is selected, he may turn down the reservation that has been made for him and seek other housing if he so desires. Single men can be housed in University dormitories. Single women may live in dormitories during the summer but will need to make arrangements for living off campus during the academic year.

What will be some of my other expenses?

1. Housing (discussed above)
2. Books ($75.00 allowance)
3. Parking fee ($3.00 per semester)
4. Weekly group luncheon ($6.00 per month)
5. Property deposit ($10.00, refundable)
6. Picnics and/or parties (approximately $10.00 per semester)
7. Activities fee (optional) ($23.80 - athletic events, newspaper, Town Hall, Great Issues Series, Recital Series)
8. Graduate Record Examination ($5.00)

WHAT COURSES ARE OFFERED AND WHAT ARE THE PREREQUISITES?

The following program would be taken by a typical participant, but in previous institutes about one-half of the courses taken by participants have been regular offerings, both undergraduate and graduate.

PRELIMINARY SUMMER PROGRAM

July 18, 1966 - August 26, 1966

MATHEMATICS 102 — **3 Semester Hours**

Professor R. V. McGee

"COLLEGE ALGEBRA"; Factoring, fractions, linear equations in one unknown, graphs, systems of linear equations, exponents and radicals, quadratic equations.

MATHEMATICS 103 — **3 Semester Hours**

Professor H. D. Perry

"TRIGONOMETRY"; Definitions of trigonometric functions, evaluations of the functions of special angles, fundamental relations, solution of right triangles, trigonometric reductions, angular measure, functions of a composite angle, logarithms, solution of oblique triangles, inverse trigonometric functions, trigonometric equations.

ORIENTATION PERIOD

August 29 to September 15, 1966

All participants will be requested to report to the campus August 29, 1966. The next two-week period will include testing, counseling, and preparation of individual programs and degree plans, and half of each day will be devoted to non-credit refresher work in mathematics.

THE FALL SEMESTER

September 19, 1966 to January 28, 1967

MATHEMATICS 121 — 4 Semester Hours

Professor R. V. McGee

"ANALYTIC GEOMETRY AND CALCULUS"; Equation of a locus, locus of an equation, the straight line, circle, parabola, ellipse, hyperbola, variables, functions, limits, derivatives and differentials for polynomials and integration of polynomials together with applications. **Prerequisites:** College Algebra and College Trigonometry.

OCEANOGRAPHY 401 — 3 Semester Hours

Professor Leo Berner

"INTRODUCTION TO OCEANOGRAPHY"; The various aspects of Oceanography with emphasis upon those pertinent in the Gulf of Mexico. The principles upon which the disciplines of the subject are based. The unity of the marine sciences and their importance to man. The relations between oceanography and the fields of biology, chemistry, engineering, geography, geology, mathematics, meteorology and physics.

CHEMISTRY 600 — 3 Semester Hours

Professor Henry Rakoff

"SURVEY OF CHEMISTRY"; Fundamental principles of Chemistry are studied intensively. Special emphasis is given to stoichiometry, oxidation-reduction, chemical kinetics, chemical equilibrium, and properties of solutions. The laboratory work illustrates the principles studied. **Prequisites:** At least eight hours of credit in college chemistry.

PHYSICS 322A — 3 Semester Hours

Professor O. Dayle Sittler

"INTERMEDIATE COLLEGE PHYSICS"; The first half of a course reviewing classical and modern physics, designed to fortify the preparation of moderately well-prepared teachers to a level where they can pursue upper division specialized physics courses. Attention will be given to the adaptation of subject matter and equipment to junior high school instruction. The philosophy emphasized by the Physical Sciences Study Committee will be developed, and attention will be given to the teaching aids produced by this committee. **Prerequisites:** At least six hours of credit in college physics.

EDUCATION or PSYCHOLOGY — 3 Semester Hours

SEMINAR — 1 Semester Hour

Professor J. G. Potter and Visiting Lecturers

A REQUIRED WEEKLY SESSION for all participants, devoted to a consideration of scientific developments and problems of science education of concern to all teachers of science. Lectures by scientists from various departments of the University and from other institutions and from industries constitute an important part of the course. Attention is given to such matters as career opportunities in the various sciences, identification of science talent, motivation of scientific inquiry, and the preparation of instructional equipment.

17 Semester Hours

When will I be notified?

Notification of award of stipends will be made on February 15, 1966 with the understanding that stipend awards need not be accepted or declined until March 1, 1966. All other applicants will be notified as to the status of their applications by February 25, 1966.

THE SPRING SEMESTER

February 6, 1967 to June 3, 1967

WILDLIFE SCIENCE 600 — 3 Semester Hours

Professor Richard Baldauf

"WILDLIFE SCIENCE FOR SECONDARY SCHOOL TEACHERS"; A course designed to give teachers the experience of conducting field trips, making field notes, and collecting and preserving fishes, amphibians, reptiles, birds, and mammals for teaching purposes. Emphasis will be placed on the proper methods for maintaining live specimens for classroom studies and for identifying the species of animals collected during the course. Students will also be expected to become proficient in the specialized techniques used in plastic embedding and in preparing skeletons, corrosion models, and cleared specimens. **Prerequisite:** At least 18 semester hours of credit in college biology.

PHYSICS 322B — 3 Semester Hours

Professor O. Dayle Sittler

"INTERMEDIATE COLLEGE PHYSICS"; (The second half of the program described under Physics 322A).

GEOLOGY 600 — 3 Semester Hours

Professor M. C. Schroeder

"EARTH SCIENCE FOR SECONDARY TEACHERS"; -A survey of the fundamental principles of physical geological processes and earth history, including a study of the origin and nature of the solar system. Laboratory work in rock and mineral identification is given.

PHYSICS 314 — 3 Semester Hours

Professor N. M. Duller

"SURVEY OF ASTRONOMY"; A study of the solar system, satellites, meteors, asteroids, comets, stars, clusters, nebulae, Kepler's laws, laws of gravitation, and astronomical instruments. **Prerequisites:** Mathematics 102 and 103.

EDUCATION or PSYCHOLOGY — 3 Semester Hours

SEMINAR — 1 Semester Hour

Professor J. G. Potter and Visiting Lecturers

A CONTINUATION from the first semester.

16 Semester Hours

THE SUMMER OF 1967

First Term

June 5, 1967 to July 14, 1967

METEOROLOGY 600 — 3 Semester Hours

Professor Guy A. Franceschini

"SURVEY OF METEOROLOGY"; A survey course of the basic concepts of meteorology with applications to weather forecasting applicable to the secondary school situation.

PHYSICS 310 — 3 Semester Hours

Professor Joe S. Ham

"APPLICATIONS OF MODERN PHYSICS"; A comparatively non-technical survey of applications of atomic, nuclear, electronic, and solid state phenomena. Electrons, ions, crystals, molecules, x-ray, atomic structure, isotopes, radioactive tracers, nuclear reactors, and atomic energy. Some demonstration laboratory work will accompany certain phases of the course. **Prequisites:** Chemistry 101, Physics 202, 219 or 322.

6 Semester Hours

Second Term

July 17, 1967 to August 25, 1967

ELECTIVES NEEDED to complete degree program.