

WHAT'S IT LIKE TO ATTEND NDSC?

These Pages Will Try To Describe Life On Campus



Something's Doing Every Minute Around the Clock

7,000 High School Seniors To Graduate

More than 7,000 seniors will graduate from North Dakota high schools in the next few weeks.

If the trend of recent years continues, you can expect to see more than half of them turn up at college campuses next fall.

Nothing in the statistics indi-

cates any downward trend in this area.

But a new factor has entered into the picture. The business boom of the past few years is leveling off. The labor market for high school trained workers is tightening up.

This means more people will probably go to college because they can't find work.

This means more young people will realize that they can compete better for better jobs with more technical or professional training.

This increase has placed a huge burden on the colleges of North Dakota and the U. S. A. Not only must the schools provide facilities, classrooms, dormitories, recreational opportunities and the like, but it must provide more and better teachers.

More because of need, better because a still more interesting factor has turned up.

It's just that we started high school and college last fall living in the atomic age and we graduate this spring in the dawn of the space age.

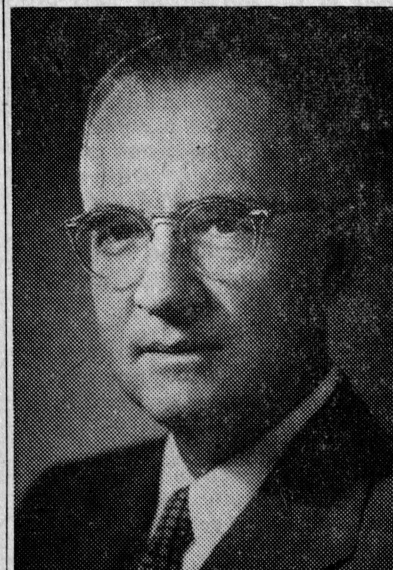
Where a few years ago only writers of Flash Gordon and Buck Rogers and science fiction claimed importance in the space literature field, now you can find the highly-educated researchers on college campuses and at military research bases, writing about trips to the moon.

Taking into consideration these factors, the high school graduate can easily visualize why he needs get all the education he can beyond high school.

His next big step, it would seem, is to visualize himself at some institution of higher learning preparing himself for adventures in the space age.

'Go To College' Says Education Expert

By Marion B. Folsom
Secretary of
Health, Education, and Welfare



The nation's need for real leaders, for creative thinkers, planners and doers, is perhaps greater than ever before.

The nation's position of leadership in the free world must be maintained and strengthened. And within our own borders we must advance the social and economic gains that have marked American progress generally.

American colleges and universities are the training ground for our scientists, researchers, teachers, businessmen, farmers — for leaders in every field upon whom the nation's future must depend.

They train not only for careers, but for greater understanding of this increasingly complex world. It has become a matter of compelling national importance that capable high school graduates get every bit of training possible to reach their own highest potential.

And so it is a pleasure for me to join with the forward looking editors of *The Spectrum* in urging the high school seniors of North Dakota to continue their education. The boys and girls who prepare well today will have the most exciting and satisfying tomorrow.

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Congratulations N. D. High School Graduates

A. E. Mead
Commissioner of Higher Education
Bismarck, N. D.

Atomic bursts are not the only explosions that are taking place in our present day society. There are political, economic and educational ones as well.



"The School of Hard Knocks" is not paying off as well as it was once thought to do. The technological age in which we live demands training at a high level. "The America of Tomorrow" requires that at least 75% of our people be

specially trained. Society has become so complex that the trial and error methods of the past are not good enough. They are not good enough for the city or the town, the market-place or the farm.

This is a contest that is political, economic, military and cultural. It is a struggle for men's minds. It is a race for survival with a godless nation committed to the principle of world domination by any method or means, and there is mounting evidence to show that it will be won or lost in the college classrooms and laboratories of America.

"There is no common language or medium of understanding between people of education and without—between those who judge things from books or from their senses."—William Hazlitt

"Training is everything. The peach was once a bitter almond; cauliflower is nothing but cabbage with a college education." — Pudd'nhead Wilson (Mark Twain)

"The things taught in colleges and schools are not an education but the means of education."—Ralph Waldo Emerson

"Education is the acquisition of the art of the utilization of knowledge."—Alfred North Whitehead

Fred S. Hultz
President
North Dakota State College
Fargo, N. D.

Although you may not graduate officially for a few more days, we want to be among the first to compliment you on reaching this important milestone in your life.



It is hoped that you will consider carefully the message our students have tried to present in this High School Seniors' Edition of The Spectrum. You owe it to yourself and your nation to get as much training beyond high school as you can.

Our country needs college-trained workers; many, many more than it has been getting for most of the years since World War II. It needs educated young people to cope with the perplexing problems of the space age, people who can make intelligent contributions in the world battle for the minds of men, people who can be real assets in their communities and to each other.

Stories and pictures in this issue show you just a little about life on our campus. Some of the features tell about the different courses available. If you are interested in college, and if our offerings seem to fulfill your needs, we would welcome having you visit the campus to talk things over, or you can write us for detailed information in any field.

Once again, congratulations on your approaching graduation and our sincere best wishes in the decisions you are about to make.

"Education is a possession which cannot be taken away from men."—Epictetus (Greek Philosopher)

"Let it be no light care to cultivate the mind with honorable arts; and to learn well two languages." Ovid (Roman teacher)

Cy Puetz
Student Body President

Where are you going? The question has probably arisen many times in your busy minds.

Were the effort and challenge of high school worth its compensations?



Now, even more important, are you willing to increase this effort and endeavor to further your knowledge in schools of higher learnings?

College attendance more than at any time in history stands bright and important, if you are going to expect to compete for worthwhile occupations.

To plan for such jobs you must have the well-rounded background of education which only college reinforced with experience is going to produce. It is true that we are a nation of specialization now, but this is because we have been forced into this circumstance by other nations around the world.

The real strength of our individual future is dependent on the amount and level of our higher education.

We must be versed in knowledge other than our own field of endeavor if we are to cope with our increasingly important and complex social problems.

These reasons are but a few for encouraging you important students to go on to higher education.

Choosing a school you like is also important if you are going to become part of an educational community and be able to contribute to its growth and success.

We want to encourage you to read about and visit all the colleges in your areas and find out from the people there, firsthand, what the benefits of further education are.

Please accept this publication as a sincere gesture of the students of our school.

"Education is our sixth sense."—Clive Bell

By Neal Bjornson
Spectrum Editor

You have reached a milestone in the road of life. From here you have many choices. You may go directly to a job those of you who face the military may choose to dispose of your obligation immediately, or you may decide to enroll at one of the many institutions of higher education in this and adjoining states.



Because of the increased emphasis on education and the growing demand for technically - trained men and women in today's industry, you are already aware of the fact that a college education can help you to earn a better living in the years ahead.

This motive is perhaps secondary to a much greater goal or objective of a college education. This greater goal: To learn to live.

Living is the art of associating with your fellow man. In our present world of mass communication we are drawn more closely together than ever before. It is, therefore, more important than any other period in our history to understand the nature of other people in other lands, to know their needs and desires, their fears, their goals in life.

College life will introduce you to virtually every type of person from the suave man-of-the-world to the retiring individual who finds pleasure in the simpler things of life.

You will meet some of these people through your classes, but the largest share of them will be encountered in your contacts with extra-curricular activities.

At North Dakota State College extra-curricular activities are an integral part of the student's education. Through them the student can obtain experience in handling people, working with people and above all, meeting people.

Why This Paper Is Printed



Joan Cantwell



Christianson



Robert Gruman



Marlys Oberg



Roland Olson



Mr. Verne Nies

This 1958 edition of the High School Seniors' Edition of the NDSC weekly newspaper The Spectrum, comes to your home through the cooperative efforts of many persons.

The students of NDSC through two of their governmental groups sponsor the publication as a student public relations effort. The groups are the Student Senate and the Board of Student Publications.

Actual editing of the publication was taken over by members of the college class for high school publications advisors with help and guidance from Mr. Verne Nies, instructor of communications.

Class members are Joan Cantwell, home economics senior from Mandan, N. D.; Arlene Christianson, home ec sophomore from Goodridge, Minn.; Robert Gruman,

arts and science sophomore from Hannaford, N. D.; Marlys Oberg, home ec sophomore from Hoople, N. D., and Roland Olson, ag senior from Buxton. Editor-in-chief is Neil Bjornson, ag senior from Arvilla, N. D.

Members of the basic journalism class submitted stories, while members of the advertising class prepared the advertisements on these pages.

The college department of information and communications assisted with stories and pictures. Many of the pictures came from the files of the Bison Annual. Others were made available by The Spectrum. Many other persons, both faculty members and students, cooperated in getting material and suggesting stories for this issue.

Whenever possible, we have tried to identify the writers so you might recognize those stories written by students from your home towns.

General theme of the publication was to have been to present a picture of typical college life. We wanted to show you that college living includes both study and play, experimentation and practical experience and responsible membership and leadership. If we fell short of this goal, space limitations may be partly blamed.

More stories were submitted and not printed than were printed. Most stories that came across our desks were useable, so if you were a would-be contributor to this issue of The Spectrum, and failed to get your article printed, thank you for a good job anyway. We hope you will contribute to the regular weekly Spectrum.

On behalf of the student publications, the board of student publications and the student senate, we wish to urge you to visit our campus. Then you can get your own "eyeview" of how our students live.

Active Student Government Builds Leadership, Democratic 'Know How'

By Beva Fegley
Berthold, N. D.

Every student enrolled at North Dakota State College has the opportunity to take part in one of the most democratic student governments that can be found on any campus.

Student government, on campus, is divided into a legislative and an executive branch. Legislators are 18 student senators headed by the student body president, all of whom are elected by the students.

The Student Senate directs all major student activities and can make rulings on matters which pertain to the conduct and welfare of the student body, except where such rulings conflict with faculty rulings. The senate can provide penalties for violation of its rulings.

The executive branch consists of the president and the six commissioners appointed by the

president and approved by the senate. The commission carries out policies set by the Senate.

The Panhellenic Council includes delegates from the sororities on campus and is the policy maker and governing group for the women's Greek organizations.

The Interfraternity Council, similarly, serves as a governing group for fraternities.

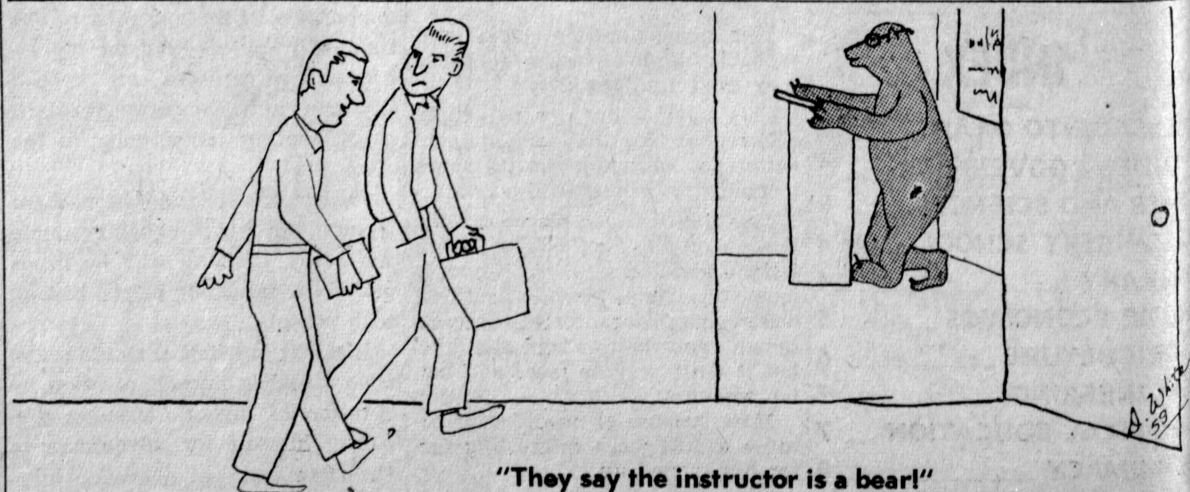
Taking part in student government has many practical values for college students:

● It gives practical training in democratic government and community leadership.

● It does away with much of the need for administrative and faculty supervision of student conduct.

● It brings diverse student groups into agreement and helps build a feeling of belonging to school, not merely attending it.

● Assures wholesome recreation for students who want it.



"They say the instructor is a bear!"

THE SPECTRUM

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Roland Olson
Marlys Oberg
Faculty Advisor _____ Verne Nies

Arts and Sciences School Is Good Place To Decide Career

Do you know what studies you want to take up in college? If you still have not made up your mind, you are not very different from many, many high school seniors who graduate each year and want to go on to school. You are still young when you graduate. You are still discovering your capacities, interests and feelings about life. It is not unusual that you do not know exactly what you want to do as a career. The School of Applied Arts and

Sciences on NDSC campus may be a good place for you to make your decision on a career. Instructors believe that you can get a lot of help from exploring the many fields which are routine in arts and sciences courses. "Usually during their first year in Arts and Sciences," Dean Seth Russell points out, "Undecided students find a field to interest them. If they decide to change to another school, the credits they have earned count toward their new course, so they have lost no college time."

You may wonder what courses you can study in the School of Applied Arts and Sciences. There are literally hundreds, but mainly they fall in the areas of language and literature, the social sciences (economics, history, sociology, education, psychology and political science), mathematics, philosophy, speech, dramatics, music, the biological sciences and physical sciences.

What kinds of jobs can you get? You know about teaching, music, physical education and business. You perhaps don't know about the numerous and often exciting jobs available in other fields.

For example, the government each year hires a lot of arts and sciences graduates for work as different as income tax record work, fish and wild life service employment and state department jobs overseas.

Recently the American Management Association conducted a poll among its members who are some of the top paid business men in America. The majority of them agreed that a broad view of life and people is more needed than specialized training. They voted economics the most useful course in college because, "It helps create a broad framework for everyday business decisions." The same men noted that English and communications are highly desirable courses because everyone needs to be able to express himself.

You may even decide to stay in arts and sciences for four years, because there are hundreds of satisfying, interesting jobs in the field of business and government where a bachelor of arts or a bachelor of science degree is the key that opens the door.

To name just a few careers, there are teaching, business, physical education, communications, mathematics, music, science and dozens of others.

Study in the arts and sciences leads to what is usually referred to as a "liberal" education. Liberal means broad and generous. It also can mean deep. You can see what that means applied to any field.

This is a little different from the specialized training required for some of the fields like engineering, pharmacy, home economics and medicine. Workers in these fields concentrate more specifically on exactly the work they will do.

College 4-H Picks Holte As New Head

Audrey Holte, NDSC home economics sophomore was elected president of the College 4-H Club, recently.

Other newly elected officers are: Marshall Johnson, vice president and membership chairman; Shirley Carlson, secretary; Richard Knudson, treasurer; and Marilyn Marschke, publicity chairman.

Slides on the National 4-H Club Congress held in Chicago, last fall, were shown by George Senechal, NDSC student who was a North Dakota delegate to the Congress.

A 4-H picnic was held at 6 p.m., May 1, at Oak Grove Park. All former 4-H members and friends were invited to attend the picnic, according to past president Gerry Gerntholz.

Typical Students

Rhame Coed Fills Hours With Activity

Janet Long, a sophomore in Applied Arts and Science, is a typical NDSC co-ed.



The cute, average height brunette came to college from a farm near Rhame, N. D. She was active in 4-H, church groups, and many high school activities. She was president of her class and carnival queen in her senior year.

She is studying for a degree in science to fit herself for high school teaching. She belongs to a Greek organization.

Here is how she pictures her average day which starts at 6:45 a.m. and ends near midnight.

- 6:45 a.m. Turn off alarm, fumble around to find toothbrush and something to wear in a dark closet, usually a sweater and skirt.
- 7:00 Alternate between trying to wake roommate and studying.
- 7:30 Eat breakfast.
- 8:00 General psychology class, with a number of sleepy students.
- 9:00 Sociology class.
- 10:00 Free time, generally used for reading mail, having coffee in the Bison Room, and studying German.
- 12:00 Noon lunch and chat with friends.
- 12:30 Study.
- 1:00 German class.
- 2:00 Education class.
- 3:00 Free time, usually used for studying or working at the dormitory desk taking phone calls. This time can also be used for reading afternoon mail, ironing clothes, watering house plants, cleaning the room, shopping at the bookstore or uptown, sewing buttons back on garments, and giving the goldfish fresh water.
- 6:00 Dinner.
- 6:45 Come back to dormitory, perhaps chat with roommate.
- 7:00 This time may be spent studying in the dormitory or in the library, at meetings, visiting with dormitory mates, or even watching TV. One night a week Janet goes to swimming class, which is the Phy Ed course she is taking this quarter.
- 10:00 Take a bath, set hair, wash out nylons, turn on radio, buy a bottle of coke, and find out who has a date for Saturday night.
- 11:00 Try to get dormitory residents quiet enough so that she can study until about 12:30.

Weekends vary the week's busy schedule. A typical Saturday for Janet includes work near the campus 9 a.m. to 12. She uses the afternoon for such chores as washing clothes, shopping, studying, and pressing a dress to wear to church the next day. In the evening, "You can baby-sit if you don't have a date."

Janet's time, when she is not studying is filled with other activities. She is president of Kappa Alpha Theta sorority, a member of Newman Club, Chemistry Club, and Guidon, (a women's auxiliary to the Army ROTC). As a freshman, she sang in chorus. She lives in the

Campus "Fireball" Works, Plays Hard

By Bob Thompson
Sioux City, Iowa

Gene Schulz, a real "Fireball" around campus, enjoys watching the Bison compete against rival teams. As secretary of the Rahjah pep club, he is one of the top boosters to the teams.

Gene comes from Beulah, N. D. He is six-foot, three inches tall, weighs 190 pounds, has brown hair and hazel eyes; and "he's available."

Like many other students on campus, he completed his military obligation before coming to school.

He has a date about once a week. Usually he doubles with a friend. They may go to a show, or they may go out to eat and then to a dance which is put on by one of the organizations on campus.

Quite often his dates are informal. Walking a girl back to the dorm after a Monday night dance in the Union Ballroom is a usual casual date. Or, calling up a girl on Saturday afternoon and asking her to go on a picnic or swimming is a little more formal, but not much.

Dates are not the only social life Gene has. He likes to play tennis or baseball with the "guys". Maybe at night he and his "roomie" will take an hour off from their studies and go down to the basement of the dorm and play a couple of games of ping pong.

One unorganized social function that can't be omitted is going over to the Union and having a coke. Except for the girls' dorm, there are more "bull sessions" in the Union Bison Room than any other place on campus—and Gene is the biggest "buller" of them all.

Gene never misses a lyceum or convo. Such entertainment as Louie Armstrong, Montovanl, and Dave Brubeck jazz trio are "musts" with him.

Social life isn't the only thing in college. Gene thinks studies are of the utmost importance. As a major in economics and taking courses like English, accounting, astronomy, history, and religion, he is busy studying a lot of the time.

After studying a couple of hours in the afternoon and three at night, Schulz is ready to hit the "sack". Sleep is important even at college.

With his mother way out in western North Dakota, the responsibilities of keeping his clothes clean, taking care of his finances, and other "housekeeping" fall on his own shoulders.

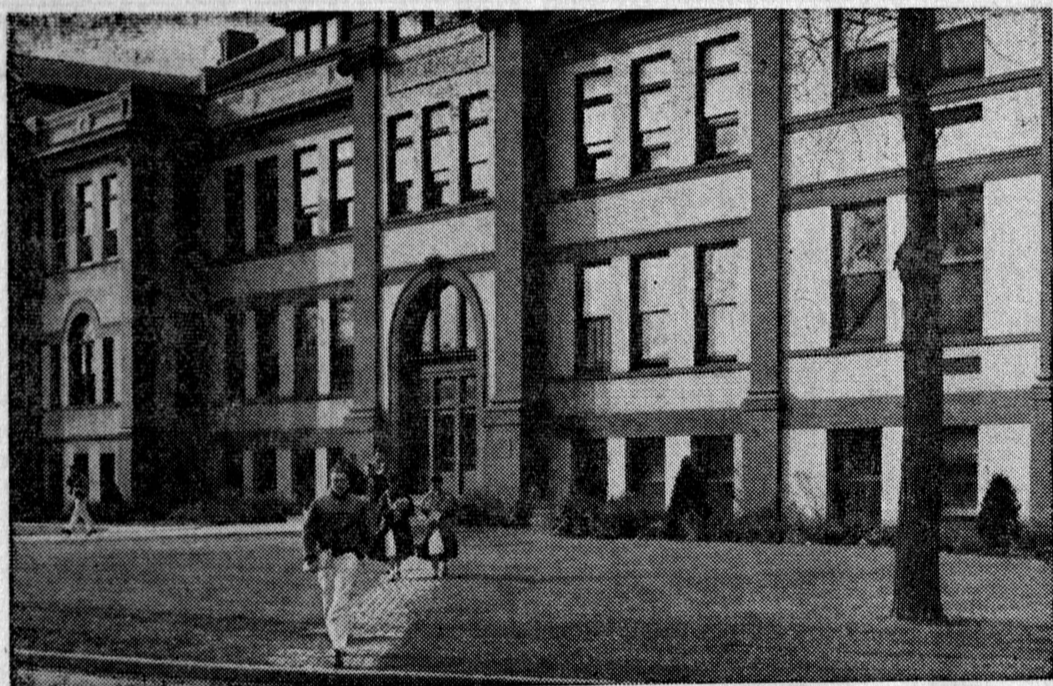
Gene has most of his clothes cleaned at one of the cleaners across the street from the campus. He has a checking account from his home town bank.

freshman dormitory, Ceres Hall, where she is a counselor.

Rhame, North Dakota, where Janet graduated with a class of 14, has a population of about 380. It is 400 miles from Fargo in the extreme southwestern part of North Dakota. Many NDSC students come from Montana, Minnesota, South Dakota, and other states.

Janet received two scholarships before coming to college.

Janet says, "I think high school girls who can, should go to college. In addition to training you get, it gives you a chance to make your own decisions, meet new friends, and prepare for a responsible, satisfying adult life."



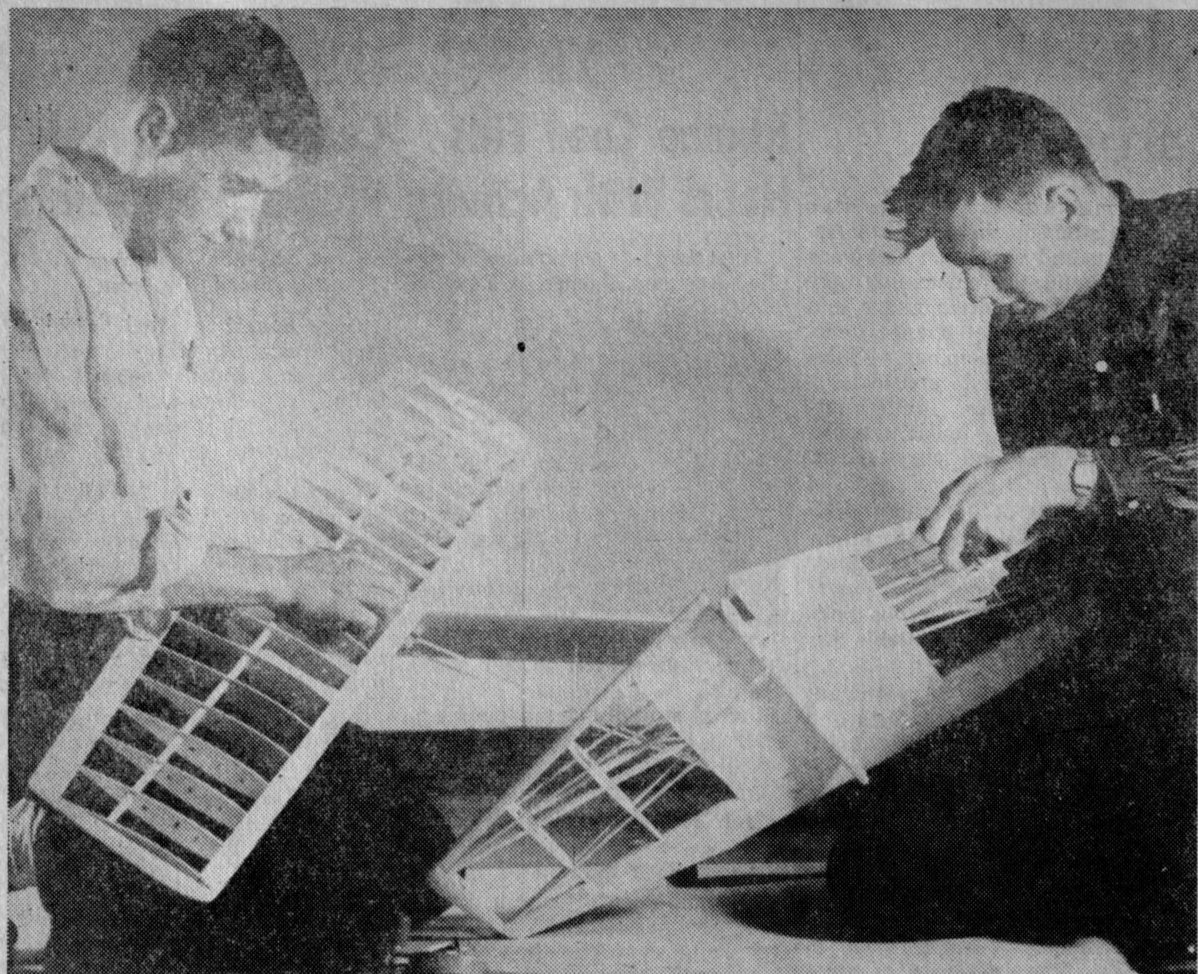
It Will Pay You To Get a Liberal Education

Business Industry and Government are Seeking Graduates in the Following Fields:

- POLITICAL SCIENCE
- PHYSICAL SCIENCE
- ENGLISH
- MUSIC
- MATHEMATICS
- ECONOMICS
- BIOLOGICAL SCIENCE
- PSYCHOLOGY
- COMMUNICATIONS
- FOREIGN LANGUAGES
- SOCIOLOGY
- EDUCATION
- SPEECH
- HISTORY
- PHYSICAL EDUCATION

School of Applied Arts and Sciences

For more information mail in the coupon on page 8 of this issue.



BUILDING model airplanes takes skill and hard work, but it's a lot of fun. The YMCA Model Airplane Club is one of many, many activities open to NDSC students. There are also the Camera Club, a Dramatic Club, a Ski Club, a Debate Society, an International Relations Club, and dozens of less formally organized groups for fun and learning.

Library Has 130,000 Books, 1,500 Magazines And Top Notch Staff

If you think a library is a dusty place to keep old books, you should look at NDSC's new and streamlined library. Superior lighting and large airy rooms give an illusion of space and quiet needed to make studying a pleasure.

The library is proud of its many facilities to aid students in their studies. Books written on almost every subject are available here, including a concentrated selection of books relating to courses of study offered.

A machine to make photostatic copies of printed material has been installed this year. In place of lengthy copying by hand, a student can make a copy of needed material in seconds.

Almost all students enrolled at NDSC are required to take a course in library usage. This enables them to utilize the "serve yourself" system of circulation. This method, officially termed the open stack system of circulation, is based on the honor system. Any student may at any time go to the bookshelves and find the book he wants. He is then responsible to check it out or turn it in to the desk when he is through with it.

H. Dean Stallings, librarian, reports that the library contains over 130,000 volumes and subscribes to over 1500 magazines regularly. Approximately \$20,000 are spent annually on new books as well as \$10,000 on magazines.

Student Center Fills Many Campus Needs

Center of social and cultural activity on NDSC campus is the modern Memorial Union.

Modern well describes not only the building, but the facilities and services it provides for students. If you need a haircut, a book, or a snack, you can find it in the Union.

The Bison Room is the gathering place for the popular coffee break. Students also can be found relaxing in the Union lounge, playing billiards or bowling or browsing in the bookstore.

The Union offers facilities for dances, parties, dinners and meetings of from five to 500. The campus radio, the campus student publications, the Alumni Association and the student service also are found in the Union.

The library is staffed by 9 members full time. Student assistants are needed throughout the year, and many students find part time work here.

Our library is new, up-to-date, and one of the finest found in small colleges.

High Ranking NDSC Chem School Trains Both Men and Women

The NDSC School of Chemical Technology is one of the three largest schools of chemistry west of the Mississippi River, and is exceeded by only 13 other schools in the United States in the number of students graduated with the degree of Bachelor of Science, according to the latest report of the American Chemical Society.

The professors in the School of Chemistry are highly qualified, both personally and academically.

In addition to the dean of the school, Dr. Ralph E. Dunbar, 10 of the 12 professors who teach full time have their Ph.D. degree and the others are within one school year's work of their doctorate. Most of them have had valuable experience in industrial work. They are all friendly, and are glad to take time out to help a student with his problems.

The rather large proportion of girls in the School of Chemistry shows that chemistry is not wholly a man's world. Of the 108 undergraduates currently enrolled, 16, or about 1 in 7, are women. They too find chemistry interesting and challenging.

You may ask, "What courses are required for chemistry majors?" To graduate, each student must complete basic courses in the four fundamental branches of chemistry; inorganic, analytical, organic, and physical.

Inorganic chemistry is the study of non-carbon compounds and their properties and reactions; analytical chemistry, as the name implies, is the study of the analysis of compounds, both as to the ele-

ments contained and the exact quantity of those elements in a particular compound; organic chemistry is the study of carbon compounds; and physical chemistry, the study of physics as applied to chemical reactions.

The student may also take advanced work in agricultural and biological chemistry, in which he works with the farm products of the state of North Dakota, or in paints, varnishes, and lacquers. He may also take advanced courses in the fundamental branches of chemistry.

To prepare the student best for this college work in chemistry, the habit of good scholarship and the study of mathematics, English, and the natural and social sciences in high school is strongly advised.

More courses in these subjects are included in the college curriculum to give the student the tools which are so valuable to him in understanding and working with chemistry.

Modern languages, more specifically French and German, are given to enrich the student's cultural background and provide a working knowledge of the languages.

Students are encouraged to use their electives to study social sciences, such as sociology and psychology, and art, music and speech.

This all adds up to the kind of practical, scientific knowledge you can sell, coupled with a broad general education that enables the graduate of the School of Chemical Technology to be a success as a citizen as well as in his chosen profession.



Lu Lin Enjoys Life On NDSC Campus

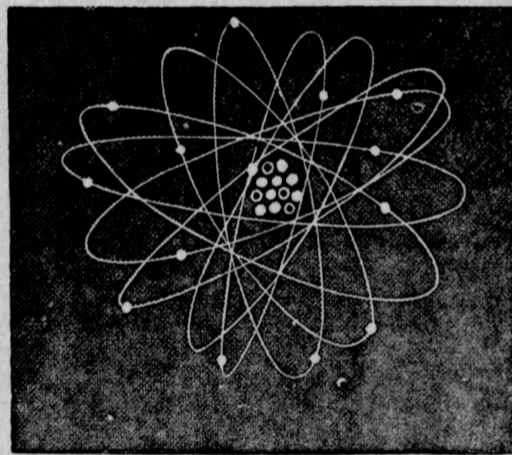
Despite being busy with chemistry graduate studies and lab assistance work, Lu Lin Chen finds time for an occasional movie and picnic. Translating lectures completely, remains a problem for her, although it is becoming easier, as her studies continue.

Lu Lin's present home is in Formosa, where her father is associated with shipping and trading industries in the Far East. Lu Lin's family consist of her parents, a brother who is a Formosan University chemistry student, and another brother and two sisters who are high school students.

Although more science and mathematics are taught in Chinese high schools, than in the U. S., Lu Lin thinks the amount of material covered is about equal, as more emphasis is put on these subjects in U. S. colleges.

The Chinese high school and college students are quite westernized in their dress, Lu Lin says. The age at which the Chinese girls begin to wear lipstick varies but it is usually not worn before they are 18-20 years old.

Is YOUR Career In Chemistry?



The School of Chemistry gives top training for many well-paid, challenging positions in business, industry and government.

Here are some examples:

Pure and Applied Research
Teaching
Analysis and Testing
Industrial Plant Supervision
Technical Writing

Chemical Sales
Consultation work
Civil Service, state and national
Agricultural Products Research
Technical Librarian

Clip the coupon on page eight for more information

School of Chemical Technology
NDSC, Fargo, No. Dak.

Home Economics At NDSC Prepares Women Students For Many Careers

By Joanne DeGier
Hancock, Minn.

Many high school seniors are vague about the possibilities of our profession—perhaps because home economists can choose among so many different careers.

Home economics can be a gateway to 250 jobs for the married or the single girl.

A young woman is wise to pick home economics because it gives her a liberal education, and prepares her for a higher level of homemaking, and a stimulating career as well.

You can study in six fields at North Dakota State College for careers in teaching, extension, business, commercial food work, communications and dietetics. Next year you can take Interior Decorating because of the new courses being taught.

Home economics education prepares you for a wide variety of jobs from teaching and extension work to work in industry and is a good general field that will prepare you for homemaking.

Another field of study, food and nutrition, provides training for hospital dietitian internship, institutional food management services, and food and nutrition research positions.

Textiles and clothing offers four areas in which you may specialize: General textiles and clothing; a combination with related art for certain kinds of merchandising; a

combination with courses principally in economics for work in the retail field; and a combination with related sciences to provide background for laboratory work or research in textiles.

You may also take courses in home management, and child development and in related art to broaden your knowledge of the home, to develop your appreciation of art and the application of its principles to everyday living.

The sparkling new Home Economics building offers complete facilities for class in vocational work. The building was completed in 1952 and has the latest furnishings and equipment.

Girls may join two professional organizations in home economics. One of these is Tryota, open to any girl who cares to belong. It acquaints girls with the profession and its opportunities.

The other is Phi Upsilon Omicron, a national professional honorary society. Girls are chosen for membership in the last quarter of their sophomore year or in their junior year on the basis of scholarship, interest in campus activities and other things.

Home economics offers many off-campus activities to help broaden the girls' knowledge of homemaking fields. One of these is the home economics field trip to Minneapolis.

The girls go by chartered bus and usually stay about three days.

They visit many different places including a Betty Crocker test kitchen, and a dress factory where original designs are made.

Home economics is a well rounded education. A girl takes courses in almost every school on campus. She takes chemistry, English, zoology, psychology and even some agriculture courses. When she is ready to leave after her four years on campus she is an educated, mature person, ready to start her career, confident that she has had the best training possible.

Top High School Boys To 'Pre-vue' Science

Fifty top-ranking high school boys from Minnesota, North Dakota and South Dakota will attend the first annual junior engineers and scientists Summer Institute at NDSC June 1-14, according to E. E. Hutchinson, assistant college director of counseling and institute coordinator.

Known as Jessi, the institute is sponsored by "Scientists of Tomorrow," a non-profit national organization that promotes educational activities in science, and by industries on the west coast.

The youth will be picked from a list recommended by high school instructors. The program will emphasize the opportunities in mathematics, science and engineering and will outline training needed for work in these fields.



PRACTICING methods they have learned in their Home Economics courses are Janice Wegge, Cummings, N. D., at the sewing machine and Diane Aslakson, Sheyenne, N. D., cutting out a garment.

Women's Phy Ed Builds Health And Grace

"Physical education for women can be both entertaining and educational," says Miss Beulah Gregoire, head of the women's physical education department.

Many courses in team and individual play are offered to women. Among the individual sports, golf and tennis are becoming popular. Archery, bowling, swimming, badminton, and modern dance are a few of the other courses available. Basketball, volleyball, and speedball are three of the team-type sports played.

Freshman girls are required to take three credits in body mechanics, physical fitness, and rhythms. After completing these hours, the girls may try out for Orchesis, which is a modern dance group.

There is an active Women's Athletic Association on campus. All girls are encouraged to join, for it provides leisure recreation.

Placement Service

If you need to work part-time to get through school, the NDSC Placement Service may be able to help you find a job on or off campus.

Upon graduation the Placement Service helps you set up interviews with different companies for full-time employment.

If you plan to teach after graduation, you may be able to find a job through the teacher placement bureau at NDSC.

GYMNASTICS provide entertainment as well as educational values for the NDSC co-eds. This is just one of the many healthful recreations offered at NDSC.



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Fiala, SC Grad, Explains Rocket Functions

Harvey Fiala spoke to the Independent students recently about the problem involved in getting a satellite into orbit.

Mr. Fiala attended school at SC and has worked with many rockets and missiles, mainly with the ICBM program in their missiles and ordnance department. Work involves complex stress analysis of the stable platform of the inertial guidance system of the Polaris Missiles.

The rocket he is holding was constructed by Peter Kiefer of Caselton. It took first place when entered in the Science Fair at Valley City.

Fiala explained that a rocket needs more gas stations. The gravity and centridical force is so strong it makes the rocket burn more fuel. The fuel is made of powdered sugar and salt petre.

Dormitories Are Campus Housing, Social Centers

CERES HALL

Ceres Hall is the mixing and meeting point of all freshman girls living on campus. Through its winding halls echo the voices of more than 100 other dormitory residents AND your ROOMMATE.

In your nicely-painted and curtained room you will find not only new furniture but a new girl, your roommate. This girl may come from a small town you have never heard of before or she may live not far from your home. Even though there may be times when you wish she would give you more closet space there are also times you will be glad that she is there for you to confide in after an especially happy or sad day.

Mrs. Mildred Kirst, house-mother, lives in an apartment near the center of the dormitory and is on hand to listen to problems and to keep the dormitory functioning smoothly.

In rooms on each corridor are two student counselors, usually sophomores, who lend their time and ears to many freshman problems; small, (What should I wear to the party?) and sometimes large, (Should I change schools?)

Ceres Hall with its large parlors and friendly atmosphere gives its residents, the freshman girls, a feeling of unity and belonging.

By Cameron Mikkelsen
Devils Lake, N. D.

DAKOTA HALL

Dakota Hall, the residence of many new men students, is one of the older buildings on campus.

It is centrally-located, the farthest class is not over a block and a half away. Just across the street is the Student Union, which has a cafeteria, bowling alleys, ballroom, barber shop, bookstore, and other attractions.

This dormitory has 31 single rooms, 28 double rooms, and a section of rooms that can accommodate three or four men. The north wing, called Finnegan Hall, houses a number of NDAC's athletes. The bathing facilities are adequate.

The cost of the rooms per quarter is, single—\$65; double—\$50; triple—\$40; and a 4 man room—\$35.

Some of Dakota Hall's facilities are not as modern as those in other dormitories but these hardships are minor and easily taken in stride. At first it may seem difficult to study during the noisy hours of the day, but with a little effort these distractions can be ignored.

Although it lacks some conveniences, Dakota Hall makes up for this with its informal, fun-loving atmosphere, an advantage not so easily offered by the other men's dormitories.

Ag Graduates Get Many Good Jobs In Industry and Business

When a new student comes to NDSC, he has many choices in the professional fields he may enter.

Why do so many students choose agriculture? Perhaps the biggest reason is that agriculture is so basic and so important to both our state and our nation. Thus the industry can offer a wide range of jobs, from laboratory research to actual farming itself.

Despite the fact there are many workers in the agricultural field, the need is still much greater than the supply of specially trained technicians.

A recent national survey revealed that there are about 15,000

jobs opening up in agricultural special fields each year, but only about 8,500 agricultural graduates come out of college each year.

These figures emphasize both the need and the opportunities.

As an agricultural college graduate you can enter any of eight general fields. They are:

Agricultural research, where scientists try to find the answers to some of the complex problems of modern agriculture.

Agricultural industry, which needs trained men as managers, salesmen, field workers, chemists and for dozens of other well-paid jobs.

Agricultural business, which includes workers at every level of the complex distribution system that brings farm products to consumers.

Agricultural education is custom made for the person who enjoy farm life. High school and adult vocational agricultural teaching and college teaching are a few of the places you could find a career.

Agricultural communications offers thrilling new fields. There are hundreds of openings in radio, TV farm magazines, photography, advertising and public relations.

Agricultural conservation needs young people to help win the battle of conserving our natural resources. You can enjoy the natural beauty of the out-of-door while working with soil, water, fish and wildlife and forest jobs.

Government service in agriculture offers work in far off lands as well as close to the folks back home. Some of the jobs are in customs, guarding against importation of plant and insect pests.

Last and most important is farming. You can't have better tool than a college education in agriculture if you plan to farm in today's high competitive economy.

Land-grant colleges such as NDSC, provide unequaled facilities for teaching all phases of agriculture. Employers know this, so they turn first to these schools when they want to hire college trained people who really know agriculture.

Church Groups Provide Spiritual Outlet

One of the little stressed aspects of life at NDSC is the opportunities available for religious expression.

There is nothing compulsory about religious membership or attendance at religious services, yet a surprisingly large number of students take part in the numerous vigorous religious organizations on campus.

Groups on campus include the YMCA, the YWCA, Gamma Delta (Missouri Synod Lutherans), Lutheran Student Association, (other Lutherans) Newman Club (Catholics), Wesley Foundation, (Methodists) Westminster Foundation

(Presbyterian), Baptist Fellowship, John Robinson club (Congregational), Canterbury Club (Episcopal) and the Inter-Varsity Club (inter-denominational group that stresses Bible study).

The Lutheran Students Association is completing a new, modern headquarters on campus. The Newman Club is going to build a new building and chapel, and the Y is making plans for a building to replace the one destroyed in the tornado.

The Fargo School of Religious Education is located on campus and offers a wide variety of courses.

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School of Agriculture
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Satellites Boom Engineering

By James M. Gulbranson
Fargo, N. D.

With the advent of the satellite age, world attention has been focused more than ever before on the engineer and his accomplishments. The critical shortage of engineers has been recognized and programs to attract our youths to the engineering fields are everywhere underway.

You are the youth! You can become an important part of this new age of science. College training is the first step.

The NDSC School of Engineering dates back to the founding of the College of Agriculture. It has grown steadily and is now the largest school on the campus with nearly 39 per cent of all the students on campus enrolled in its courses.

Divided into seven fields of study, the engineering school offers bachelor of science degrees in aeronautical, agricultural, architectural, civil, electrical, industrial and mechanical engineering.

Courses of study are being revised and changed constantly to keep them abreast of the rapidly changing industries for which they supply skilled professionals. Changes are recommended by professional engineering societies made up of leaders in every field of engineering. These professional groups sponsor student chapters on campus in which most engineering students take part. The American Institute of Electrical Engineers and the American Societies of Mechanical, Agricultural, and Civil Engineers are only four of the numerous professional organizations on campus.

Membership in these groups gives students opportunity to observe changing trends in the profession, to get help and guidance from upper classmen and become eligible for senior membership in the professional society after graduation.

Freshmen in the School of Engineering are all required to take the same courses.

This means that you have the entire first year to decide which engineering course you want to take. During the year, you can get excellent counseling from your instructors.

During your first year in engineering school, you will take a course in English each quarter, one in a higher mathematics every quarter and two quarters of chemistry and a quarter of physics. You will also take a half dozen other courses such as library usage, slide rule usage, required military training, surveying and basic engineering.

Textbooks will cost about \$6 each, but most of them can be used for two courses. A good log duplex slide rule is needed, costing about \$22.50.

For the drawing courses you need a drawing set, board, T-square, triangles, and some other equipment. This will total about \$40. Laboratory fees for the freshman courses total about \$10 a quarter. You may be able to get some equipment you can use from friends and relatives who have completed engineering courses. Usually, it is wiser to wait until you enroll to buy the equipment you need.

To get into the School of Engineering you need one unit each of algebra and plane geometry and one-half unit of solid geometry.

If you have not already taken these courses, you will be required to enroll in special non-credit courses in the School of Applied Arts and Sciences before you can be admitted to the School of Engineering. You may also pick up some credits by correspondence from the Division of Supervised Study, State College Station, Fargo, North Dakota.

It is important to get your mathematics requirements before you come to college otherwise it may take you extra summer session work or another college year to get your engineering degree.

You should check with the School of Engineering this spring to see if you have the required credits for entrance.

Once you complete your work for an engineering degree at NDSC you can seek employment among such famous corporations as General Electric, Bell Telephone, Chance-Vaught Aircraft, Inc., The Naval Air Missile Test Center, The Naval Electronics Laboratory, the Civil Aeronautics Administration, and many others.

'Student Union Plans Expansion Program', Announces Brostrom

"We know now we are going to expand. This is a big year of development for the Union. This is progress." These are the words of Dale Brostrom, director of the Memorial Union.

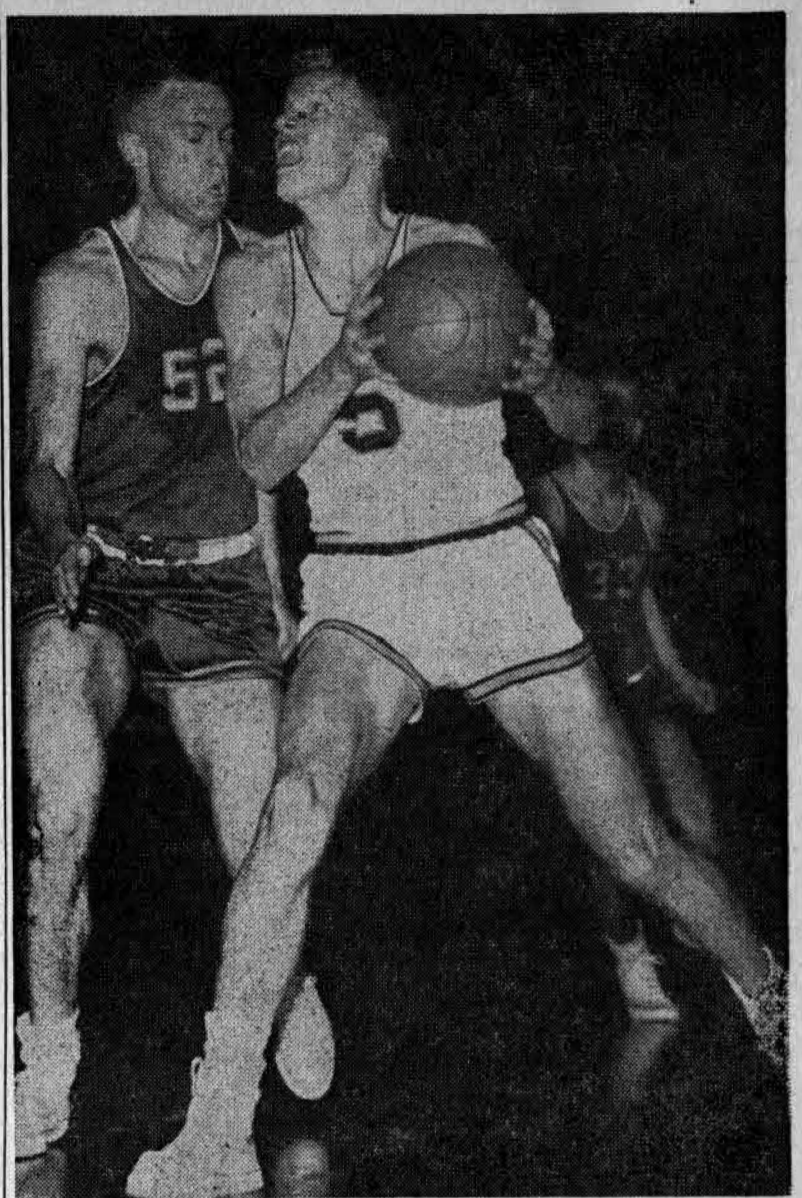
By next September, a new \$100,000 expansion will have been added onto the union, Brostrom says. Architectural fees, general construction, electrical and mechanical installation, and a steam main running from the college power plant are all included in the \$100,000 figure.

The dimensions of the addition will be 53 by 130 feet. The structure is designed to carry a second floor for possible later expansion.

The basement will be fully excavated, thus making space available for future expansion on that level.

The present bowling lanes will be moved to the ground floor of the new addition and will be equipped with completely automatic Brunswick pinsetters.

The space presently occupied by the bowling lanes will be remodeled to enlarge the Bison Room.



Phy Ed Program Has Many Student Benefits

"It takes all kinds" is an overworked saying that basically contains a lot of truth.

But, no matter what "kind" you are, the Division of Athletics and Physical Education at North Dakota State College can provide relaxation and enjoyment for you.

Facilities are available for a wide variety of interests, ranging from the three-sport letterman to the fellow who enjoys a game of golf now and then, or the girl who is interested in modern dancing.

A staff of 12 is trained and prepared to offer instruction in your favorite team or individual sporting event at North Dakota State. Six of the staff members work full time in men's physical education, three in women's, and three are part time staff personnel.

One of the primary purposes of the Division is to train young men and women for professional teaching in the field of athletics, recreation or physical education. Many NDSC graduates who majored in physical education now hold enjoyable and rewarding coaching jobs throughout the state and area.

Young men and women planning to coach or teach physical education can prepare themselves at North Dakota State. Major and minor requirements are built around basic courses in applied arts and sciences and provide professional training.

Of greater interest to most of the students at NDSC are the department offerings in varsity and intramural athletics.

North Dakota State fields varsity athletic teams for competition in nine inter-collegiate sports. Bison athletes compete in the North Central Intercollegiate Conference in football, track, tennis, golf, baseball and basketball. Other members of the NCC are North Dakota University, South Dakota State, South Dakota University, Augustana College, Morningside College and Iowa State Teachers College. Sports in which Bison teams com-

pete without conference affiliation are bowling, cross-country, and wrestling. Wrestling and cross-country were added to the athletic program this year to provide varsity athletic competition for more of the student body.

Intramural competition and instruction for men are available in softball, basketball, touch football, bowling, volleyball, ping-pong, golf and tennis.

Women interested in intramural events have a choice of bowling, tennis, basketball, softball, swimming, rifle marksmanship, trampoline, badminton, volleyball, plus others in which a sufficient number of students display interest.

It is in this intramural area that most of the student body at North Dakota State has a chance to compete. One doesn't have to be particularly proficient to compete in intramurals, and playing with, or against friends can make the sport even more enjoyable.

In order to participate in the athletic program at NDSC, students must meet the scholastic requirements of the institution as well as those of the North Central conference.

Facilities for the physical education program are located in the Auditorium and Fieldhouse, built in 1931. Included in the building are shower, dressing and store rooms, a swimming pool (unfinished) and an indoor track.

The auditorium provides three regulation basketball courts, and will seat 3,600 for varsity basketball and wrestling events. Football and track events are held at Dacotah Field, which provides seating for 12,000.

"Education: that which discloses to the wise and disguises from the foolish their lack of understanding."

"The real and legitimate goal of the sciences is the endowment of human life with new inventions and riches."—Francis Bacon



ENGINEERING BUILDS BROADER HORIZONS

This age of rapid scientific development provides unequalled opportunities for qualified engineers. Thousands of challenging, important positions open yearly in the world's fastest growing profession. More than 1100 students at the School of Engineering are preparing for a rewarding future. These student-engineers receive thorough training in their profession. Small group instruction encourages close student-instructor relationships.

The School of Engineering offers courses in the following divisions of engineering:

- Aeronautical
- Agricultural
- Architectural
- Civil
- Electrical
- Industrial
- Mechanical

SCHOOL OF ENGINEERING NORTH DAKOTA STATE COLLEGE

For further information send in coupon on page 8 of this issue.

Pharmacy Offers Future For Both Men and Women

The School of Pharmacy at North Dakota State College is outstanding both in the quality of its teaching and in the number of skilled pharmacists it provides each year for North Dakota.

The School of Pharmacy was organized in 1902. It moved to its present location in Frances Hall in 1931. One student graduated in Pharmacy in 1904 and since that time near 6,000 men and women have completed their training. A five year course has been authorized, effective in 1960.

The official accrediting agency for all schools and colleges of pharmacy, the American Council on Pharmaceutical Education, has awarded a class "A" accreditation to this School of Pharmacy. This is the highest rating given.

Certain traits seem common to most happy, successful pharmacists. If you want to be a pharmacist, cleanliness and orderliness must be your second nature.

You must be meticulous because deviation in a prescription can bring tragic consequences. Studying is a must even after graduation.

A pharmacist must keep abreast of medical and scientific developments. A basic qualification for a

pharmacist is an aptitude for science. A future pharmacist must like dealing with people and he must possess high ethics.

Pharmacy offers to women a rapidly expanding field of scientific knowledge. This is of vital importance in medical treatment. Women students now make up about 10 per cent of the present enrollment which means we have 24 women students.

As a pharmacy graduate, you have many opportunities. Among the many are retail stores, hospital pharmacy, wholesale pharmacy, government service and graduate training.

Registered pharmacists may earn from \$100 to \$150 a week; hours ranging from 44 to 54 per week. The income of the pharmacist who owns his store may range from \$5,000 to \$20,000 in salary and profits.

Attractive as earnings may be, pharmacy has other advantages for you to consider.

At the present, there is a shortage of pharmacists. As a profession, it offers you personal freedom and safety. The pharmacist helps safeguard the health of the community.

College Music Mixes Learning, Fun, Travel

Did you ever play in your high school band or sing in the choir? If you did, you will be glad to know you can continue your music while attending college.

The North Dakota Gold Star Band is made up of the college's top musicians. The Concert Choir, similarly has the college's top voices. Both of these organizations need many new members each year.

Band and choir meetings, in addition to giving opportunities for musical education and enjoyment, are a great place to meet new friends quickly. Music courses usually have a less formal atmosphere than other studies, because with the work there is also fun and enjoyment.

The band and the choir entertain at holiday convocations on campus and once a year they go on a one week tour of North Dakota communities. After the tour, they present their big home concert.

The band also leads the Homecoming parade each year and plays at all the football and basketball games. It ends up the school year by playing for graduation.

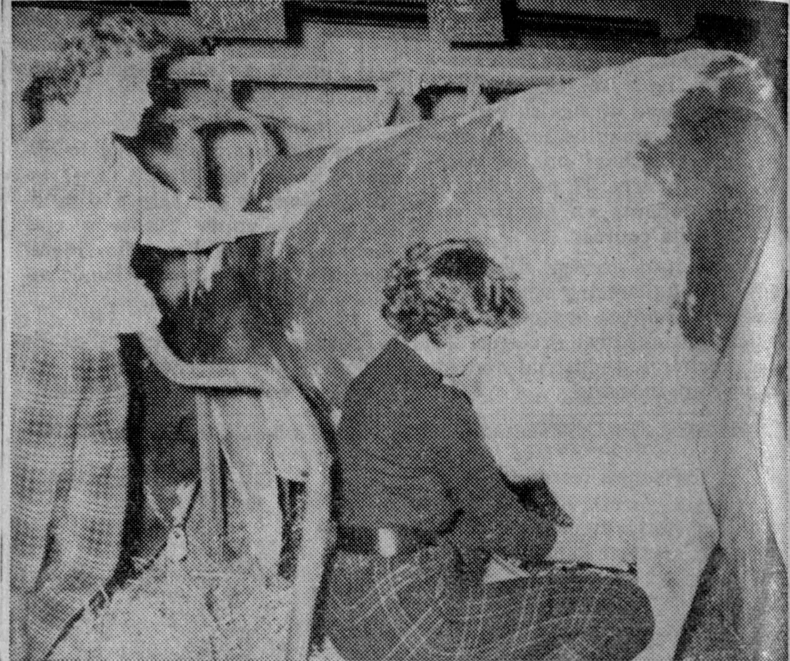
In addition to training and conducting the band and choral organizations, the music department teaches dozens of music courses, so students have an opportunity to receive a minor or major in the music field. Many of the North Dakota high school music instructors are graduates of NDSC.

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CO-ED COW MILKERS take part in the Saddle and Sirloin Club's Little International Livestock Exposition. This is just one of the numerous student activities held throughout the year that give students opportunity for learning to manage public affairs.



America's Leaders Are People Who Know

In government, in industry, in business the need for college-educated men and women is greater than ever before. A disciplined mind will be your greatest asset in building a career in an increasingly complex world.

We at North Dakota State College will be happy to send you more information than has been presented in this issue of The Spectrum.

Just fill in the attached coupon, clip it and mail to:
DIRECTOR OF ADMISSIONS AND RECORDS

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School of Pharmacy

North Dakota State College

Each of the staff members has specialized training in the various fields in which they are engaged.

The School of Pharmacy possesses the following laboratories:

- Pharmaceutical Preparations
- Prescription Dispensing and Compounding
- Pharmaceutical Analysis
- Pharmaceutical Manufacturing
- Pharmacognosy
- Pharmacological
- Research Laboratories In Pharmaceutical Chemistry, Pharmacy, Pharmacognosy and Pharmacology

The expense of obtaining an education at the School of Pharmacy at NDAC is very modest considering the professional courses offered. Very few institutions of similar kind are prepared to offer as excellent a training at such a reasonable cost. The demand for pharmacists is way beyond our ability to satisfy and the salaries being paid are most excellent.

If you are interested in planning an education in pharmacy, please contact

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