

1973

Bulletin of the University of Nebraska: Annual Catalog of the College of Medicine, 1973-1974

University of Nebraska College of Medicine

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73-74

BULLETIN

**of the
COLLEGE of MEDICINE**

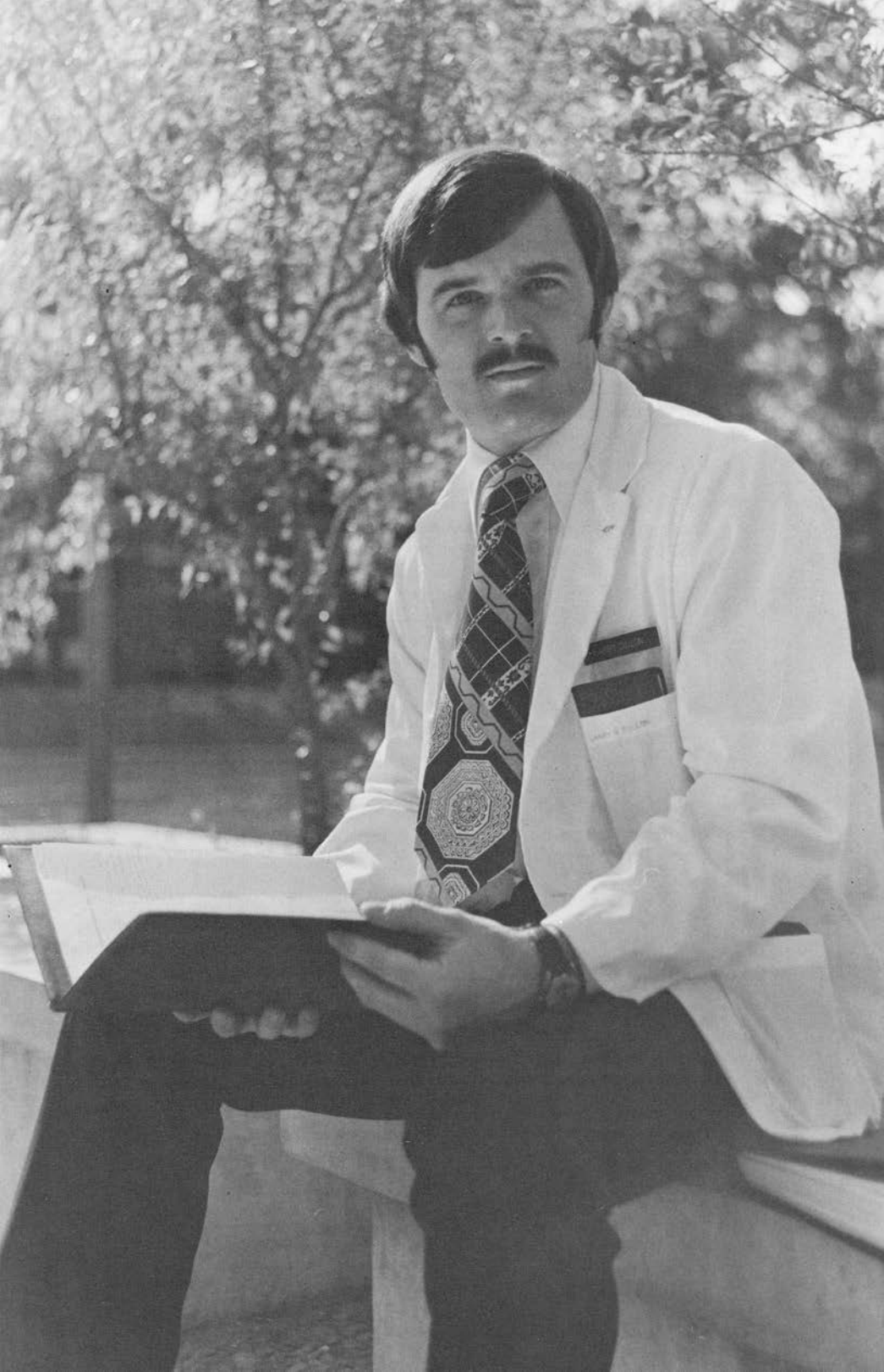
UNIVERSITY OF NEBRASKA MEDICAL CENTER



college of medicine
1973-1974

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**ACADEMIC CALENDAR OF THE
COLLEGE OF MEDICINE
1973-1974**

Quarters

July 9 through September 30Summer
 October 1 through Noon,
 December 21Fall
 January 7 through March 31Winter
 April 8 through June 29Spring

Recesses and Holidays

September 3, 1973 (Monday)Labor Day
 November 22, 1973 (Thursday)Thanksgiving Day
 Noon, December 21, 1973
 through January 6, 1974Winter Recess
 8:00 a.m., April 1, 1974
 through April 7, 1974Spring Recess
 May 27, 1974 (Monday)Memorial Day

Special Events

October (Date to be announced)Family Day
 April (Date to be announced)Health Professions Day
 April 9, 10 & September 24, 25, 1974* ..National Board Examination
 Part II
 June 11, 12 & September 4, 5, 1974* ..National Board Examination
 Part I
 May 26, 1974 (Sunday)Commencement

12 Quarter Students

Class of 1975, mid-June, 1973
 (Date to be announced)Registration
 Class of 1976, July 9, 1973 (Monday) ...Orientation, a.m.
 Class of 1976, July 9, 1973 (Monday) ...Registration, a.m.

Juniors and Seniors

July 9 through August 5, 1973Period IA
 August 6 through September 2, 1973 ...Period IB
 September 3 through
 September 30, 1973Period IIA
 October 1 through October 28, 1973 ..Period IIB
 October 29 through
 November 25, 1973Period IIIA
 November 26 through
 December 23, 1973Period IIIB
 January 7, 1974 through
 February 3, 1974Period IVA
 February 4 through March 3, 1974 ..Period IVB
 March 4 through March 31, 1974Period VA
 April 8 through May 5, 1974Period VB
 May 6 through May 25, 1974Period VIA
 (Seniors)
 May 6 through June 2, 1974Period VIA
 (Juniors)
 June 3 through June 29, 1974Period VIB
 (Juniors)

*These are tentative dates for the National Board Examinations as confirmed dates are not established until Summer, 1973.





To Present and Future Physicians

These are times of great change in our society, of new demands being placed on the universities which have caused them to look at themselves critically and to plan for change to meet their new responsibilities.

Health is the most prized of all human possessions. Without it the ability to enjoy other aspects of life is dimmed or destroyed. Those who enter the health professions have a responsibility to do all within their power to restore their fellow man to good health and a useful role in society. This commitment must often be accomplished at great cost to the professional person in time and energy, and is rendered without regard to his personal likes or dislikes.

The responsibility of the University of Nebraska College of Medicine is to assist in the provision of health care for Nebraska through the education of candidates for the health professions. The entire organization of the hospital and ancillary programs includes outstanding medical care for patients in University Hospital and Clinics, but the quantity and type of care is determined by the educational needs of the students.

There is a growing national concern about the need for well-prepared men and women in the health professions, but especially in medicine, and the University of Nebraska is dedicated to the resolution of its share of this problem. Candidates of moral integrity and willingness to work, who are well-suited for any post-collegiate academic work, can achieve admission and graduation from the College of Medicine. While reasonable academic competence is necessary, high motivation is of even greater importance.

Lack of funds should not be a deterrent. Loan funds and scholarships are available for students with significant needs. No student, in recent years, has been unable to stay in medical school for financial reasons. No qualified candidate should fail to apply for lack of money.

I hope you find the bulletin of interest. Feel free to call or write this office for any additional information.

A handwritten signature in cursive script that reads "Robert B. Kugel".

ROBERT B. KUGEL, M.D.
Dean



COLLEGE OF MEDICINE

History—The legislative Act of February 15, 1869, provided for the formation of the University of Nebraska at Lincoln, and included provision for a college of medicine. In 1883, the University of Nebraska College of Medicine was established at Lincoln. It continued in operation until the 1887 session of the Legislature withdrew its appropriation, necessitating discontinuance of the college on May 19, 1887. The Omaha Medical College, incorporated at Omaha in 1881, became a part of the University of Nebraska in 1902. The merger resulted in the first two years of the four-year medical course being given in Lincoln and the last two years in Omaha. Since 1913 the entire four-year course has been given in Omaha. The College of Medicine is a component of the University of Nebraska Medical Center, one of the three major campuses of the University of Nebraska system.

Standing—A strong faculty is meeting the demands of the expanding requirements of medical education. Excellent clinical facilities are provided through the University Hospital and clinics as well as other affiliated hospitals.

The College of Medicine meets the requirements of the most exacting state examining and licensing boards. Its degree grants the holder all privileges accorded to graduates of any medical college in the United States. It is a member of the Association of American Medical Colleges and is approved by the Liaison Committee on Medical Education representing the American Medical Association and the Association of American Medical Colleges. It maintains high standards in instructional staff and content of courses.

The College of Medicine operates a fully accredited program leading to the Doctor of Medicine degree. The University Hospital also provides internship and residency programs in most of the major medical specialties.

Recently, several new programs have been undertaken with the objective of providing better health services for the citizens of the state: increasing undergraduate medical enrollments; developing interdisciplinary educational programs at both undergraduate and graduate levels; increasing allied health professions enrollments; expanding graduate training opportunities for physicians; experimenting with improving, yet shortening, the undergraduate curriculum; increasing the emphasis on ambulatory care; expanding continuing education programs for physicians, nurses, and allied health professionals; organizing circuit courses and two-way telephone conferences for physicians, nurses, and hospital administrators in rural areas; establishing a new Division of Rural Health to work toward the goal of improving health care in rural areas; developing a model rural health care delivery system in Broken Bow, Nebraska, designed to help solve problems related to health care, and to serve as a training ground

for medical and nursing students, graduate physicians, and allied-health personnel; constructing new educational facilities and hiring new talented faculty members.

In the past, the University of Nebraska College of Medicine has operated under a traditional four-year program, teaching the basic sciences first, with a final two years of clinical experience. Now, as a result of more than six years of planning, a new twelve-quarter curriculum at the University of Nebraska College of Medicine is being offered.

The objective method is followed in laboratories and clinical instruction. In all courses students are encouraged to pursue individual work, meeting in small groups with laboratory and clinical instructors.

APPLICATIONS FOR ADMISSION

Admission to the University of Nebraska College of Medicine is granted without regard to race, color, sex, or religion.

In considering scholastic records of applicants, greater weight is given to the quality of work than to an excess of credit hours over the minimum required number. Consideration is given also to appraisals of character, personal interviews, scores on the Medical College Admission Test and general fitness and promise of the candidate.

A limited number of students from states other than Nebraska and from foreign countries will be accepted for the freshman class. It is the policy of the Committee on Admissions to require that foreign students spend at least one year, and preferably two, studying in an undergraduate college in this country before applying for admission to the College of Medicine. This policy has been established in order that the applicant may become familiar with the language, customs, and methods of teaching in the United States, and so that the Committee can obtain a better evaluation of his qualifications and preparation for medicine.

APPLICATION PROCEDURE

The University of Nebraska College of Medicine is a participant in the American Medical College Application Service (AMCAS) of the Association of American Medical Colleges. Participation was effective beginning with applicants of 1970 for the class entering in 1971. Application Request Cards for 1973 are available from premedical advisers and from participating medical schools. Forward your requests to the Registrar, College of Medicine, 42nd and Dewey, Omaha, Nebraska 68105.

Complete instructions for proceeding with the application will be with the application packet received from the above source. Careful attention to all details listed will expedite the handling of applications. Changes in residency status cannot be implemented during the time your application is being considered. The application will be processed by AMCAS and forwarded to the University of Nebraska College of Medicine beginning in July 1973. Deadline for receipt of applications by AMCAS will be November 15, 1973. No application for first-year medical students will be accepted which has not been processed by AMCAS.

Upon receipt of your application from AMCAS, the University of Nebraska College of Medicine will request, in addition, the following:

1. Two *recent* unmounted photographs, 2 x 2 inches head size;
2. At least two character appraisals from faculty members, preferably one in the premedical science area; or official report of Premed Committee;
3. The result of the Medical College Admission Test. Applicants will take the test not later than the fall of the year preceding intended entrance. Information concerning this test may be obtained from the premedical adviser of the College of Arts and Sciences; from the Psychological Corporation, 304 East 45th Street, New York, New York, 10017; or the Registrar of the College of Medicine. Students should communicate directly with the Psychological Corporation for specific details.
4. Supplementary transcripts of academic work completed subsequent to submission of the original transcripts to AMCAS should be sent, as they become available, only to those medical schools where one's application is still under consideration.

A personal interview is required of all students before final acceptance will be offered. Interview sessions will be held at the campus of the University of Nebraska in Lincoln in November and December. Interviews will be given at the College of Medicine on stated dates, by request, and if necessary by designated persons in or near the applicant's location. Inquiries should be made of the premedical advisers at Lincoln or of the Registrar of the College of Medicine regarding appointments for interviews.

Any applicant who has previously applied for admission and has not been accepted or who fails to enroll after an acceptance must re-apply in the regular manner if he wishes consideration for a subsequent year.

Special programs of study toward the degree of Doctor of Medicine can be arranged for individuals holding doctorates in other areas of science, dentistry, and veterinary medicine. These programs are individually designed by a faculty committee and take advantage of the talents and background of the applicant. Consultation with the Dean's Office prior to entering this program is required.

Advanced Standing—Application for admission by transfer to a level equivalent to the second or third year medical classes will be considered from students attending medical schools approved by the Council on Medical Education and Hospitals of the American Medical Association and if a vacancy exists. An applicant for admission to advanced standing should request an application form from the Registrar of the College of Medicine, 42nd Street and Dewey Avenue, Omaha, Nebraska 68105. The deadline for receipt of these applications is January 15, 1974. He must furnish evidence that he has satisfactorily completed courses equivalent in kind and amount to those taken by the class to which admission is sought. He must also present a letter of recommendation from the dean of the medical school last attended. The University of Nebraska College of Medicine reserves the right in every case to give examinations in any or all subjects in which credit is requested.

United States citizens desiring to apply for transfer from a foreign to a United States medical school should note that to reduce duplication of effort in the procedure used in the past, a Coordinated Transfer

System (COTRANS) has been devised by the Association of American Medical Colleges Group on Student Affairs in cooperation with the National Board of Medical Examiners. The University of Nebraska College of Medicine participates in the COTRANS program. As of February 1, 1970, any U.S. citizen wanting to apply for transfer from a foreign medical school to the University of Nebraska College of Medicine and to take the NBME tests must do so via the COTRANS program. The applicant should request instructions from the Coordinated Transfer System (COTRANS) of the Association of American Medical Colleges, One Dupont Circle, N.W., Washington, D.C. 20036. Deadline for applications is May 15, 1973. The University of Nebraska College of Medicine usually, but not always, has only one or two places open at the sophomore level for applicants under this program. Because of the nature of our curriculum, it is not possible for this school to offer advanced standing to United States citizens from foreign medical schools at any level above the sophomore year.

A student will not be admitted to advanced standing in any class while he has a delinquency in any subject and may not become a candidate for graduation unless he has spent the last six quarters in residence at this college.

In accordance with the recommendation of the Association of American Medical Colleges, the College of Medicine does not grant any time credit toward the Doctor of Medicine degree to holders of a bachelor's degree; this means that the total time spent by each student taking his medical degree must include, as a minimum, two or three years of registration in a medical college, the last six quarters of which must be in residence in the University of Nebraska College of Medicine.

Transfer credits are granted at the discretion of the Committee on Admissions which has the right to demand satisfactory evidence of completion of previous work equal to that required of students at this College.

If a student has been dropped from another medical school because of poor scholarship or unsatisfactory conduct, he is not acceptable for admission to the University of Nebraska College of Medicine except in rare and unusual circumstances.

GENERAL CONSIDERATIONS IN PLANNING A MEDICAL EDUCATION

The educational program leading to the degree of Doctor of Medicine begins before the student enters medical school. The content and quality of his professional training are vital. It is essential that the student and his advisers have a clear understanding of the objectives which are sought.

The course of study in the College of Medicine is designed to produce an unspecialized physician, soundly grounded in modern science, who, after a variable period of postgraduate education and training, is competent to enter his chosen field of medicine. In broad scope, medical education has three end products. The first, in terms of numbers, is the practicing physician. In addition, the medical investigator and the medical teacher are products of the same educational process. All three are essential to the growth and application of knowledge in

the field of medicine. Two of these, the practicing physician and the medical teacher, must be capable both of practicing an art and of applying the natural sciences to medicine. Furthermore, relatively few medical investigators will do research without some responsibility in the teaching or practice of medicine. The Doctor of Medicine, whether he embodies one or all three of these products, deals with people as individuals and as a society. The art of applying scientific methods in the preservation of health and in the treatment of the ill requires that the physician not only be well trained in these methods but also well aware of his limitations.

The growing complexity of our society makes it increasingly necessary that the physician be well founded in the humanities which put him in touch with his society, not only to recognize health needs and to be informed of available facilities, but also to gain an understanding and compassion which are basic to the art of healing. The rapid development of medicine as an applied science, requiring quantitative precision and analytical reasoning in diagnostic and therapeutic procedures, is also placing an increasing premium upon excellence of preparation in these areas. The minimum educational requirements of the past are no longer adequate.

While it should be recognized that there is almost no knowledge or experience which cannot be of value to one preparing for the practice of medicine, it is very clear that the optimum use of one's time in such preparation can be realized only when wise choices are made on the basis of relative value. With time at a premium, the fact that there are directions of emphasis which are definitely more helpful than others is reason enough for listing recommendations for admission to the College of Medicine. This is only a beginning, however, and many choices of electives must be made in high school and college to complete a good preparation for the study of medicine. Recommendations here are intended not to exclude any field of major interest but rather to point to areas in which the limited available time can be spent most advantageously. Not only is the area of study to be considered but also the academic level. When more than one course in the same subject is offered, the student is strongly advised to choose the more substantial rather than the more elementary course. Occasionally, a choice for a given course is wisely made on the basis of the excellent quality of instruction and the depth of scholarship involved irrespective of the area of study.

The following specific educational recommendations have been chosen in recognition of the fact that medicine is progressively becoming more of a quantitative science. To follow adequately and to use these current developments the student must be facile with quantitative and analytical methods. However, the physician still must minister to the needs of the whole patient, and he must be prepared to assume an important role in his society. Thus it is imperative that the student acquire a sufficiently broad experience to meet these demands.

SPECIFIC EDUCATIONAL RECOMMENDATIONS

High School—This should be a strong college preparatory course. It is recommended that the student complete two years of study in

a foreign language, four years of English, and as much mathematics and science as possible.

College or University—A minimum of 90 semester hours (three years of college work) in an accredited college is normally required. In exceptional circumstances, 60 semester hours may be accepted. To provide an opportunity for scholarship in depth, the completion of a college major is strongly recommended. In most instances, preparation for medical school can best be achieved by including the following courses:

<i>Course</i>	<i>Minimum Semester Hours</i>
CHEMISTRY	14
The recommendation is for two semesters of general or inorganic chemistry (analytical chemistry may serve as part of this requirement) and a two-semester, complete course in organic chemistry.	
BIOLOGY	12
Unless biology is chosen as the college major, additional electives in this field which may significantly duplicate courses given in medical school are less advantageous to the student than other electives.	
PHYSICS	8
This should include a complete course in physics. The student should register for the course which is commensurate with his mathematical background if more than one is available.	
ENGLISH	12
This must include at least one year of composition.	
MATHEMATICS	
This should include material through introductory calculus. Familiarity with statistics and with the principles of computers is highly desirable. If advanced mathematics has been completed through four years in high school, this college recommendation may be modified.	
FOREIGN LANGUAGE	
Although no college foreign language is required, this is considered a valuable elective. Also, it should be understood that this is required by the College of Arts and Sciences of the University of Nebraska at Lincoln, as well as by most other colleges, for the bachelor's degree. It is also required for the degree of Doctor of Philosophy and should be anticipated by any student who is considering graduate work.	
ELECTIVES	
The student is urged to select courses from the general field of the humanities and behavioral sciences and not to limit his training to the above scientific subjects.	

Credits offered from professional schools which do not regularly receive arts college credit are not accepted for premedical college requirements.

A student applying to the College of Medicine should have a grade average of at least B in all the required science courses. The grade of B is based upon the grading system of the University of Nebraska. The equivalent in other grading systems will be determined by the Registrar, College of Medicine, and the Committee on Admissions. In determining the equivalent, the grading system and the scholarship requirements of the college or university wherein the work was completed will be taken into consideration.

REGISTRATION AND ADMISSION TO CLASSES

When an applicant receives notice that he has been accepted for entrance to the College of Medicine, he is required to send a deposit of \$25.00. This is applied as part payment of the tuition fee for the

first half or is forfeited if the applicant fails to register in the class for which he was accepted.

Students eligible for Veterans Administration benefits must submit on day of registration a Certificate of Eligibility (VA 21E 1993), approved for a program with the objective of Doctor of Medicine degree, indicating the University of Nebraska College of Medicine as place of training.

Registration is accomplished on the day indicated in the official calendar. A fee of \$5.00 is charged any student who, unless excused by the Dean, seeks to register later than this day. A fee of \$5.00 is charged for reregistration. Any change whatever in a registration once made is considered as a reregistration. No work done in the College of Medicine may be credited without proper registration. No student may add any subject to his schedule or drop from it any subject for which he has been regularly registered at specified times.

Class Standing and Promotion—The standing of a student in any course is determined by the instructors in charge of the subject, by examinations, by personal observation and by other methods of evaluation.

Grading System—The grading system at the University of Nebraska College of Medicine is as follows:

H — Honors—outstanding achievement, superior

P — Pass

F — Fail

The above letter grades do not have or require fixed numerical percentage equivalents.

Any course which, for good reason, has not been completed, but in which progress has been satisfactory may be reported as "incomplete." A student may not register for the succeeding three quarters with an existing incomplete on his record except by special permission of the Dean. Students must remove an incomplete acquired during the intermediate quarters before the last two quarters of the graduation year.

A student during the first six quarters who fails only one course, if other course grades are satisfactory, may repeat that course at another appropriate time provided he has the approval of the department in which the failure occurred and the concurrence of the Scholastic Evaluation Committee.

Those students who are reported failing three or more subjects during the first six quarters may be asked to withdraw, if in the judgment of the course instructors and of the Scholastic Evaluation Committee continuation would appear to be ill advised. Furthermore, a student who has failed the same subject twice is not eligible for registration at this College.

Any student who is allowed to repeat academic quarters must take all courses in those quarters and demonstrate satisfactory attainment in spite of the fact that he may have previously succeeded in some of these subjects.

Comprehensive Examinations—Students who are completing the basic sciences will be required to meet the following academic requirements:

1. A student who has obtained a passing grade (P) or better, namely Honors, (H), at the end of the second year and a passing

score as determined by the National Board of Medical Examiners on Part I of the National Board Examination will be considered to have met in full scholastic requirements for continuation into quarters seven and beyond.

2. A student who has less than a passing score on Part I of the National Board Examination can be advanced into quarter seven only after a decision by the Scholastic Evaluation Committee that the student is capable of performing satisfactorily and, in addition, can be reasonably expected to meet the requirements contained in #3 below. This decision by the Scholastic Evaluation Committee will be based upon an interview with the student, a full review of this academic record, and, where indicated, consultation with the faculty.
3. A student who has less than a passing score on Part I of the National Board Examination and has thereby not provided all required evidence of successful mastery of the course material of the pre-clinical years, may be granted a temporary deferment of this requirement in accordance with #2 above. He will ordinarily be advised to repeat the examination when it is next offered and will be considered on probation and remain under the observation of the Scholastic Evaluation Committee until the examination has been successfully passed. Under extraordinary circumstances, the requirement of a passing score may be waived by the decision of the Scholastic Evaluation Committee.

Part of the evaluation of students completing the final year is a comprehensive examination. This comprehensive is the National Board Part II Examination.

Student Discipline—The Dean of the College of Medicine acting on the advice of the faculty is responsible for student discipline. A student who is found to be unfit to enter the medical profession may be required to withdraw from the College. Suspension, dismissal, or other suitable action, as each case warrants, may be taken.

Absence or Withdrawal—The Dean of the College of Medicine is the adviser to all students in the College. A leave of absence for a short time may be granted by the Dean. If a student in good standing finds it necessary to withdraw from the University before the close of a quarter, the Dean may grant him permission to do so. If the student is a minor, a parent or guardian must request that the student be permitted to withdraw.

REQUIREMENTS FOR GRADUATION

The degree of Doctor of Medicine is granted only under the following conditions:

1. The candidate must be at least 21 years of age;
2. He must possess a good moral reputation;
3. He must have complied with all the requirements for admission;
4. He must have pursued the study of medicine for at least two or three years and must have passed all required courses and examinations of the College of Medicine, University of Nebraska.
5. He must have successfully passed examinations posed by the

appropriate committees of the College of Medicine as outlined under the section on Comprehensive Examinations and have passed all departmental examinations;

6. He must have discharged all indebtedness to the University of Nebraska.
7. He must have completed one month of Basic Science elective sometime during quarters 7 and 12.

The Executive Faculty may select not more than five students from the top 10 per cent of the graduating class and recommend them for the degree of Doctor of Medicine with Distinction.

The Executive Faculty may also select not more than two students from the top 10 per cent of the graduating class who have shown outstanding scholarship or who have made an outstanding contribution to medical science and recommend them for the degree of Doctor of Medicine with High Distinction.

Courses Leading to the Degrees of Bachelor of Arts or Bachelor of Science and Doctor of Medicine—Students who have transferred from the University of Nebraska–Lincoln or Omaha College of Arts and Sciences may at the end of their fourth year earn the Bachelor of Arts degree or Bachelor of Science degree by:

1. Completing the group requirements of the College of Arts and Sciences;
2. Completing two minors or one major;
3. Using the subjects of the first year of the medical course as a major, all of which must be completed satisfactorily.

Both of these degrees are conferred at a commencement on the Lincoln or Omaha campus.

Candidates for baccalaureate degrees in institutions other than the University of Nebraska–Lincoln or Omaha may arrange with their colleges to accept transcripts of the work of the first two years in medicine to apply to such degrees, or otherwise satisfy the requirements of those institutions.

Courses Leading to the Degree of Bachelor of Science in Medicine—Only students presenting premedical college credits of high standard and who have satisfactorily completed all courses of the first two years in medicine, the last year of which shall be in residence in this institution, but who have not fulfilled the requirements for the degree of Bachelor of Science or Bachelor of Arts in the College of Arts and Sciences, may become candidates for the degree of Bachelor of Science in Medicine.

COMMENCEMENT EXERCISES

Every candidate for a degree is expected to participate in commencement exercises unless he is officially excused by the Dean. Inasmuch as the date of commencement is known long in advance, students can usually avoid commitments which conflict with graduation ceremonies.

FEES AND EXPENSES*

All students who are legal residents of Nebraska and who carry a full student load will pay a single annual fee of \$960. Nonresident

*Fees are subject to change.

students will be charged a single annual fee of \$1,920. Adjustments may be made in the case of students carrying less than the full student load. Tuition may be paid quarterly.

The annual fee includes matriculation, registration, medical, library, diploma, and course fees. In case of undue usage of materials or breakage or loss of equipment other than that allotted to each course, and because of negligence on the part of the student, a penalty charge will be levied based upon the fair value of the material and equipment so lost or broken.

Fee Refunds—A student who withdraws from the University during any term for which he registered is entitled to claim a refund of a portion of his fees. A refund schedule is available at the Finance Office.

Miscellaneous Fees—

Admission fees:

Application fees—Resident	**
—Nonresident	**

Special service fees:

Deferred tuition payments	\$ 5.00
Transcript of grades	\$ 1.00
Certificate of graduation letter of completion	\$ 1.00
Bad check	\$ 3.00

Deposits:

Keys (refundable)	\$ 1.00
Pre-registration (applied toward tuition)	\$25.00

Late fees:

Late examination	\$ 5.00
Late payment of tuition	\$10.00

Other fees:

Replacement of student ID card	\$ 5.00
Change of class schedule	\$ 5.00

Expenses—Board and room can be obtained in the vicinity of the College campus at a cost of approximately \$175 per month. Students rooming together spend slightly less than this amount. Three hundred dollars a year should be allowed for books and instruments. The average expense of a resident student for a school year, including board and room, books, instruments (exclusive of microscope and other special equipment), and all fees is about \$3,500.

MISCELLANEOUS INFORMATION

Form of Payment—To avoid misunderstanding as to the amount charged for fees, checks on personal accounts will be received only when written for the exact amount of the fees. Parents or guardians should write checks for fees and for other expenses separately; if this is not done, students should deposit funds in a local bank and give personal checks for the amounts of the fees.

Remittance by mail should be by draft, money order or cashier's check. Do not send coin or money except by registered mail. It is impossible to trace money lost in the mail and University officials cannot be held responsible for such loss.

Housing—Although the College of Medicine has no on-campus

**Payable directly to the American Medical Application Service (AMCAS). See Application Procedure.

housing for medical students, the Registrar's Office maintains listings of rooms, apartments, duplexes, and houses reported available.

Residency—Each quarter, as part of the registration procedures, students are asked to certify their residency. The qualifications for residency are set forth in an enactment of the 1971 Legislature (Sec. 85-502, R.S. Supp. 1971) which is effective after August 31, 1972, as follows:

85-502. A person shall not be deemed to have established a domicile in this state, for the purpose of sections 85-501 to 85-504, unless:

(1) Such person is of legal age and shall have established a home in Nebraska where he is habitually present, with the intention of making this state his permanent residence;

(2) The parents, parent, or guardian having custody of a minor registering in a state educational institution shall have established a home in Nebraska where such parents, parent, or guardian is habitually present with the intention of such parents, parent, or guardian to make this state their, his, or her permanent residence; Provided, that if a person has matriculated in a state educational institution while his parents had an established domicile in this state, and the parents leave the state, such person shall not lose his domiciliary status by reason of such parents, parent, or guardian having ceased to reside in this state if such person has the intention to make this state his permanent residence;

(3) An emancipated minor, who shall have established a home in Nebraska where he is habitually present with the intention of making this state his permanent residence, and shall not have lived with nor been supported by his parents, or either of them, for two years or more prior to such registration;

(4) Such person is a nonresident of this state prior to marriage, and marries a person who has established a home in Nebraska where he is habitually present with the intention of making this state his permanent residence;

(5) Such person, if an alien, shall have begun processing his United States naturalization papers, and shall have established a home in Nebraska where he is habitually present with the intention to make this state his permanent residence;

(6) Such person is a dependent of a staff member of the University of Nebraska or one of the Nebraska state colleges who joins the staff immediately prior to the beginning of a term from an out-of-state location; or

(7) Such person is on active duty with the armed services of the United States and has been assigned a permanent duty station in Nebraska, or is a legal dependent of a person on active duty with the armed services of the United States assigned a permanent duty station in Nebraska.

Sec. 2. No person shall be deemed to have established a home in Nebraska where he is habitually present unless he shall execute an Affidavit of Intent that the State of Nebraska is his permanent residence and has been his permanent residence for one year immediately prior to the execution of the Affidavit of Intent, and he shall:

(1) Have been registered to and be eligible for voting in Nebraska state elections;

(2) Have continually for one year immediately prior to the beginning of the semester or summer session for which the student is enrolling:

(a) Paid applicable Nebraska sales and Nebraska income tax as a Nebraska resident; and

(b) Registered and had assessed for applicable taxation in Nebraska, all personal property requiring registration, as may be owned by such person; or

(3) Own a home in Nebraska in which such person is residing, or have executed a contract to purchase and be making payments on a home in Nebraska in which such person is residing.

Sec. 3. The provisions of this act shall apply to enrollment of students after August 31, 1972.

Sec. 4. That original section 85-502, Reissue Revised Statutes of Nebraska 1943 is repealed.

Microscopes—Students are required to provide suitable microscopes for their own use. Inquiries regarding specifications for microscopes as recommended by the faculty should be addressed to the Registrar, College of Medicine.

GRADUATE WORK

Graduate course work in the field of Medical Sciences is offered

in fourteen departments: Anatomy, Anesthesiology, Biochemistry, Internal Medicine, Medical Microbiology, Obstetrics and Gynecology, Otolaryngology and Maxillo-Facial Surgery, Pathology, Pediatrics, Pharmacology, Physiology and Biophysics, Psychiatry, Radiology, and Surgery. Four of these departments (Anatomy, Biochemistry, Medical Microbiology, and Physiology and Biophysics) offer independent majors leading to the master's degree or to the Ph.D. degree. Three additional departments (Pathology, Psychiatry, and Radiology) offer independent majors leading to the master's degree only. The fourteen departments also cooperate in offering an interdepartmental area program which permits the students to choose a course of study for the master's or the Ph.D degree with concentration in the Medical Sciences Area rather than in a specific department.

The requirements for admission for study in a department of the Medical Sciences or in the interdepartmental area program are as follows: An applicant for admission for work leading to an advanced degree with specialization in a department of the Medical Sciences (Anatomy, Biochemistry, Medical Microbiology, Pathology, Physiology and Biophysics, Psychiatry, and Radiology) must comply with the rules governing admission to the Graduate College, and also with any specialized rules governing admission for study in the department in which he expects to major. In general the applicant will, therefore, need to present a Bachelor of Science or a Bachelor of Arts degree from a recognized college or university including undergraduate preparation constituting an acceptable major in the department in which he expects to carry his work.

As a prerequisite to admission for work leading to the degree of Master in Psychiatric Occupational Therapy, a student must have been graduated from an accredited school of occupational therapy and hold a bachelor's degree from a school or college of recognized standing. Acceptable evidence will also need to be submitted on the student's personal qualifications for Psychiatric Occupational Therapy.

Admission to graduate work in the Interdepartmental Area of Medical Sciences, leading to the Master of Science or Doctor of Philosophy degrees, may be granted to students from either of the following categories:

1. Students with a baccalaureate degree from a recognized college or university, including a premedical background appropriate to the planned program in the Medical Sciences Area.

Students entering the Medical Sciences program on this basis will be required to have already completed, or to include in their graduate programs, regular medical college course material in at least three of the following subjects: (1) Anatomy, (2) Biochemistry, (3) Physiology and Biophysics, (4) Medical Microbiology, (5) Pathology, (6) Pharmacology, and (7) Radiology. Such subjects are to be recorded upon admission to candidacy and included in the comprehensive examination.

2. Students with a degree of Doctor of Medicine with an acceptable record. Students with an M.D. degree will not be permitted to receive graduate college credit for repetition of a course covered in the M.D. program.

A student registering for graduate work in the medical sciences must comply with the general requirements of the Graduate College

and with any special rules established by the graduate committee of his major department, or if the major is the interdepartmental medical sciences area, by the interdepartmental area committee. Certain special rules which are applicable to all students in the medical sciences regardless of the major are set forth in the paragraphs which follow. Other rules which pertain to the work in specific departments or in the interdepartmental area are indicated under the headings designating the respective departments in the Graduate Studies Bulletin.

Graduate students with deficiencies in respect to entrance into a department or the medical sciences interdepartmental area may be admitted to the Graduate College on a provisional basis. With permission of the appropriate Graduate College department or area committee, the Dean of the Medical College, and the Associate Dean for Graduate Studies and Research, they may register for courses on the College of Medicine campus while demonstrating their capability and fulfilling course prerequisites. Such graduate students may, upon formal admission to a degree program, make application to the appropriate department or area committee for graduate credit in certain medical courses successfully completed. The graduate or area committee may make recommendations for such credit on the basis of the attainment and aptitude of the applicant. Medical courses for which partial or total graduate credit may be allowed are listed under the respective departmental headings.

Graduate students may be required to attain proficiency in their field of concentration by participation in the instruction of students in a regularly required course in the College of Medicine. A student who fails to earn an average grade of at least "B" may not continue his program of study without the special permission of the appropriate graduate or area committee.

A student who wishes to become a candidate for an advanced degree with concentration in the Medical Sciences Interdepartmental Area must select work in the departments which have been approved to offer graduate work. He may elect to do his thesis research in any one of the cooperating departments. The distribution of graduate work shall be such that not more than two-thirds of the total program, including thesis research, shall be in one department, with the remainder in at least one other department for the master's degree, and two other departments for candidates for the degree of Doctor of Philosophy.

If the thesis research is done in a clinical department, one-third of course credits must be obtained in pre-clinical departments.

In the Medical Sciences Area, the Supervisory Committee may require a student working toward the Ph.D. degree to demonstrate facility in particular foreign languages and/or special research tools when they are particularly relevant to the student's chosen area of specialization.

Please see the Graduate Studies Bulletin for additional information on graduate programs.

GRADUATE FEES*

All students who are legal residents of the State of Nebraska will pay \$13.00 per quarter hour. Nonresident students will pay \$32.00 per

*Tuition and fees are subject to change.

quarter hour. The quarter hour rate applies to hours 1 through 12. From 13 hours through 16 hours no additional charge is assessed. The regular hourly rate is charged for all hours over 16. The single fee includes—in addition to course charges—registration, library, diploma, and Student Health fees.

Miscellaneous Fees—

Matriculation fee	\$10.00
Special service fees:	
Deferred tuition payments	\$ 5.00
Transcript of grades	\$ 1.00
Certificate of graduation letter of completion	\$ 1.00
Abstract fee, doctoral degree	\$25.00
Bad check	\$ 3.00
Graduation fees:	
Thesis binding, per copy	\$ 6.00
Deposits:	
Keys (refundable)	\$ 1.00
Late fees:	
Late examination	\$ 5.00
Late payment of tuition	\$10.00
Other fees:	
Replacement of student ID card	\$ 5.00
Change of class schedule	\$ 5.00

Teaching and Research Assistantships—A graduate student is required to pay resident tuition and fees for any quarter during which he holds an appointment as a teaching or research assistant.

Graduate Fellowships—A student must carry a full program of graduate study or research for each quarter during which the fellowship stipend is received.

Financial Aid—Graduate students in need of financial assistance should contact the Office of Scholarships and Financial Aids, 324 Conkling Hall on the Medical Center campus.

GRADUATE REGISTRATION

Registration is accomplished before each quarter. Information and instructions regarding registration are circulated prior to the date of registration. Students should consult with their departmental chairmen or the Associate Dean for Graduate Studies and Research concerning registration.

UNIVERSITY STAFF EXEMPTION

Members of the academic-administrative staff employed full time may be permitted to register for not more than 6 credit hours per quarter in not more than two courses, for which the charge is \$1.00 plus a \$5.00 matriculation fee. All such registrations must carry the signed approval of the chairman of the department and the dean or director of the college, school, or division in which the staff member is employed during the period for which he is registered.

Academic-administrative staff members of the University employed by the Nebraska Psychiatric Institute are eligible for this staff exemption.

CONTINUING EDUCATION

Continuing education is offered through a variety of approaches to practicing physicians, nurses, and people in allied health professions. Approximately fifty on-campus courses are offered each year by the University of Nebraska Medical Center. Located within the Eppley Hall of Science, the Center, uniquely designed to facilitate adult learning, provides sophisticated audiovisual equipment including closed circuit color television capabilities in a myriad of settings available in 10,000 square feet devoted exclusively to the continuing education of the health professional. On-campus education of an intensive nature is available to practitioners through clinical traineeships in certain aspects of medicine through participation in hospital work and an organized plan of study. Continuing education is brought to health workers in their own hospitals through circuit courses and a program of two-way amplified telephone conferences involving the University of Nebraska Medical Center faculty and out-state participating hospitals. Through the Dial-A-Tape Library, recordings on medical diagnosis and current therapy are available by telephone to physicians and allied health professionals of the state.



FINANCIAL ASSISTANCE

The primary function of financial aid programs at the University of Nebraska Medical Center is to provide financial assistance to students who, without such aid, would be unable to enter or continue their higher education. Financial assistance consists of scholarships, grants, and loans administered by this institution. Other sources of financial aid are available from outside sources.

Academic excellence, financial need, or both are the basic criteria used in selecting recipients of aid. The family of a student is expected to make maximum effort in providing assistance. Financial aid through this institution and other sources should be viewed as supplementary to those efforts.

Most sources of financial assistance available to medical students are listed below. The sources described are by no means the only forms of aid available. Public and private organizations throughout the country are involved in aiding students. Information on those other sources may be available at your school or public library. More specific information on each of the programs listed below is available in the Office of Scholarships and Financial Aids located in Conkling Hall.

Application Procedure—Financial assistance programs administered by this institution require annual application. Those programs are combined into one application form. Applicants need not apply for a specific scholarship or award as each applicant is evaluated in terms of his eligibility for all forms of financial assistance.

All annual applications in which financial need is a consideration require the applicant to also file a "Financial Statement" with College Scholarship Service.

Applications and financial statements can be obtained after March 15th from the Office of Scholarships and Financial Aids and should be filed by May 1st. Applications received after that date will be considered.

Applications or information for other sources of financial aid listed below are also available in the Office of Scholarships and Financial Aids. Normally, there are no specific deadlines for most of those applications.

University of Nebraska and University of Nebraska Foundation Scholarships—There are a number of scholarships which are available to students of the College of Medicine. Some were established by the University Board of Regents and others made available by organizations and individuals. The conditions governing these scholarships vary as do the numbers and amounts. Generally, awards are made on the basis of academic excellence, financial need, other restrictions, or a combination of those considerations. Selections are on recommendation of the Committee for Scholarships and Financial Aids, with approval of the Dean, or in some instances by special committee. Annual application is required. A listing of these scholarships with a brief description of each is available from the Office of Scholarships and Financial Aids.

University of Nebraska and University of Nebraska Foundation Loans—A number of student loan funds are available to the College of Medicine. These funds are in the custody of the Board of Regents

and the University of Nebraska Foundation and were established through contributions by organizations and individuals. The conditions governing the funds differ; however, a student with financial need can usually qualify for a loan from one or more funds. Although some other eligibility criteria may prevail for specific funds, the student must be enrolled or accepted for enrollment and must demonstrate financial need. Normally, not more than \$1,500 may be borrowed each academic year. Some funds are restricted to lower maximums. Applications may be filed at any time during the school year and must be made through personal interview at the Office of Scholarships and Financial Aids.

Health Professions Student Assistance Program—A federally sponsored program established by the Public Health Service Act of 1963 to aid students who need financial assistance to pursue a course of study leading to a degree of Doctor of Medicine. The goal is to increase educational opportunities by providing long-term, low interest loans and grants to students who are in need of such assistance. Health Professions loans and grants are made to students with the lowest family income.

An applicant must be a citizen or national of the U.S. or intend to become a permanent resident and must be enrolled or accepted for enrollment on a full-time basis. Grants may not exceed \$3,500 per academic year. Loans can be made up to \$3,500 for a nine-month academic year and proportionately increased for twelve months. Assistance may be provided in the form of a loan, grant, or a combination of both. Amount of assistance may not exceed the maximums indicated or the financial need whichever is the lesser. Annual application is required and a "Student's Financial Statement" must be filed.

A special Health Professions Program exists for Cuban refugees. Contact the Office of Scholarships and Financial Aids for more information.

OTHER SCHOLARSHIPS

Several other scholarships as listed below are made available to medical students. The funds for these are not administered by this institution, but the selection of recipients rests with the College of Medicine. Application procedures follow those above unless indicated otherwise.

Alpha Kappa Kappa Alumni Association Scholarship—An annual grant of \$200 is awarded to a scholastically worthy and deserving student who is recommended by the Dean and approved by the Loan Committee of the Nebraska Medical Education Fund, Inc.

Nu Sigma Nu Alumni Association Scholarship—An annual grant of \$100 is awarded to a deserving student who is recommended by the Dean and approved by the Loan Committee of the Nebraska Medical Education Fund, Inc.

Faculty Women's Club Scholarship—One or more awards made annually to women medical students on the basis of scholarship or financial need. Selections made by recommendation of the Committee for Scholarships and Financial Aids with approval of the Dean.

New York Life Scholarship—The University of Nebraska College of Medicine is one of eleven medical schools selected under a scholarship program established and financed by the New York Life Insurance

Company. The primary purpose is to assist young men and women of ability who would otherwise have serious financial problems attending medical school. Each of the participating schools selects a qualified candidate in the incoming first-year class as the New York Life Medical Scholar. For renewal, the scholar's performance is reviewed by his medical school. The student is expected to rank in the upper one-half of his class. The amount of each annual scholarship is intended to cover tuition, room, board, fees, books, and equipment as stated in a budget submitted by the Dean for approval before each academic year. Only citizens of the U.S. or Canada are eligible for this scholarship. Selection is solely the responsibility of the medical school. Inquiries should be addressed to the Chairman, Scholarships and Financial Aids Committee, who will present names of applicants to the Dean.

Ethel Booth Trust Fund—A fund established by the will of Miss Ethel Booth, former professor of English at Nebraska Wesleyan. The fund is to assist young Nebraska men and women who have given evidence of scholarship, have financial need, and who give indication of practicing in Nebraska as a general practitioner. Assistance may apply toward total academic and subsistence expenses for medical school. Inquiries should be made to the Chairman, Scholarships and Financial Aids Committee. Selections are based on recommendation of that committee with final approval of the trustee of the fund through personal interview.

OTHER LOAN PROGRAMS

Students of the College of Medicine, in addition to the above programs, may qualify for loans from other programs as listed below. While the funds are not administered by this institution, applications are in most instances processed through the Office of Scholarships and Financial Aids. Forms are available from that office, the participating financial institutions, or sponsoring organizations.

Federal Guaranteed Loan Program—This program, sponsored by the U.S. Office of Education, enables students to borrow money directly from a savings and loan association, credit union, bank, or other lending institution participating in this program. Arrangements for the loan are made directly between the student and the lender.

The student must be a citizen of the U.S. and must be enrolled or accepted for enrollment. Up to \$2,500 may be borrowed for an academic year.

Forms are available from this institution and may be available from the lender.

A special program exists for black medical students. For more information contact: National Medical Association, 1717 Massachusetts Avenue, Northwest, Washington, D.C. 20036.

The American Medical Association Education and Research Foundation Student Loan Guarantee Fund (AMA-ERF)—This program was established for medical students in full-time training who lack sufficient credit for the usual local personal bank loan. AMA-ERF has made arrangements with selected banks to guarantee loans to needy medical students.

All medical students, interns, and residents in good standing who

are U.S. citizens may use this plan. Medical students must have completed their first quarter of medical school to qualify. Applicants are eligible for loans up to \$1,500 a year up to a maximum of \$10,000 over a seven-year period.

Forms are available from this institution. Medical students should not submit applications more than once each academic quarter.

Nebraska Medical Foundation Guarantee Loan Program—A guaranteed loan program established in 1964 by agreement between the Nebraska Medical Association and the First National Bank and Trust Company of Lincoln, Lincoln, Nebraska. This program is similar to the AMA-ERF to aid medical students from the State of Nebraska in need of financial assistance.

Loans are limited to students who are full time, in good standing, and whose parents live in Nebraska, qualifying them as Nebraska residents. Applications are considered only when need of funds is demonstrated. The maximum amount that can be borrowed in a twelve-month period from September 1 to August 31 is \$1,500.

Forms are available from this institution. More than one application may be processed to borrow up to the \$1,500 maximum but applications should not be submitted more than once each academic quarter.

Nebraska Medical Education Fund, Inc.—A group of local physicians and alumni of the University of Nebraska College of Medicine established a loan fund to assist medical, nursing, and allied health professions students.

Students must be enrolled on a full-time basis and must have completed their freshman year of training. Students must be worthy of and in need of financial assistance on an emergency basis. Medical students may borrow up to \$1,500 per academic year.

Forms are available from this institution. They can be processed at any time during the academic year and should be processed through the Office of Scholarships and Financial Aids.

Student American Medical Association Foundation—A loan program which began in 1968 and is operated by SAMA. Loans are made from the Lea-Staudacher Student Loan Fund established through contributions by Lea, Inc., of Ambler, Pennsylvania, in memory of their founder.

Loans are made available for amounts up to \$250 at no interest for a period of six months. These loans are for medical students for any purpose the student desires. Loans under this program are available all year 'round and are limited only by the amount that is available to the foundation fund. Application forms are available from this institution.

American Medical Women's Association, Inc.—Women who are U.S. citizens are eligible for this program. Loans may be available up to \$500. There are no deadlines for application. For more information contact: American Medical Women's Association, Inc., 1740 Broadway, New York, New York 10019.

OTHER FINANCIAL ASSISTANCE

National Medical Fellowships, Inc.—A financial assistance program limited to students from minority groups, specifically American Blacks, American Indians, Mexican Americans, and Puerto Ricans, with

priority given to students entering the first year of medical school. Grants are made on the basis of financial need.

Inquiries concerning this program must be made by students directly to: National Medical Fellowships, Inc., 3935 Elm Street, Downers Grove, Illinois 60515.

The Robert Wood Johnson Foundation Student-Aid Program—A program established by the Robert Wood Johnson Foundation of Princeton, New Jersey, to expand the level of loan and scholarship support to certain medical students in all medical schools in the United States. The program is intended to increase the number of future physicians likely to practice in medically underserved areas. The program provides loans and scholarships over a four-year period, which started with the 1972–73 school year. Financial aid from this program is limited to needy individuals who are women students, students from rural backgrounds, or those from the country's Black, Indian, Mexican-American and mainland Puerto Rican populations. Scholarship and loan amounts vary depending upon the financial need of eligible students. Annual application is required and a "Financial Statement" must be filed to be considered.

DEPARTMENTAL AWARDS

Biochemistry—The Herbert P. Jacobi Memorial Scholarship is awarded to a medical or graduate student for academic excellence in the pre-clinical basic biochemistry courses. Recipient is selected by a committee on recommendations from the Department of Biochemistry.

Family Practice—The Fay Smith Award presented to the outstanding senior in family practice by the Nebraska Academy of General Practice.

Internal Medicine—An award for excellence in teaching by house officers to consist of a plaque and a cash award of \$50.

Obstetrics and Gynecology—The Dr. Donald Dunlop Award of \$25 presented to a senior student for the best academic record in obstetrics and gynecology.

Orthopedics—The Robert D. Schrock Award is made for outstanding performance to a resident in orthopedic surgery.

Otolaryngology and Maxillo-Facial Surgery—The Waldren-Cassidy Award is presented to the most outstanding senior student in otolaryngology and maxillo-facial surgery.

The Dr. John C. Davis, Jr., Award is presented to the best resident in the Department of Otorhinolaryngology.

Pediatrics—A \$100 achievement award is given to the student who has made the most outstanding contribution to pediatrics during his junior and senior year.

The Josephine Kugel Award is presented to the outstanding senior student in pediatrics.

Pharmacology—The A. R. McIntyre Award of \$100 is awarded for the best essay written by a medical student in pharmacology or toxicology.

Psychiatry—The Department of Psychiatry Student Award is given to the outstanding senior in psychiatry.

The Cecil L. Wittson Award is given to the outstanding resident in the Department of Psychiatry.

MISCELLANEOUS

Many other organizations aid students with scholarships and low-cost loans. They include Parent-Teacher Associations, community scholarship funds, employers, unions, churches, civic and fraternal groups, professional organizations, and industrial associations. Students are urged to check into such awards offered in their own locality. Also, many states sponsor scholarships, grants, and loan programs. Nonresident students are encouraged to check with their State Department of Education for more information.

STUDENT AND ALUMNI ORGANIZATIONS

All Campus Student Council—The All Campus Student Council governs the organization and regulation of student activities of the College of Medicine, College of Nursing, and School of Allied Health Professions. It serves as a liaison group between students in the various disciplines and works toward the common goals of students at UNMC. Each class in the various disciplines elects a representative to serve on the All Campus Student Council.

Alumni Association—Alumni of the University of Nebraska College of Medicine maintain an active organization with headquarters in Omaha, at the College. Activities include sponsorship of class reunions and social functions at various national meetings attended by graduates of the College of Medicine. The association supports a student loan and scholarship fund, a library endowment fund and sponsors a limited number of student fellowships. A news bulletin is sent to members every two months.

Alpha Omega Alpha—A.O.A. is a nonsecret medical college honorary society, membership in which is based upon scholarship and moral qualifications.

Elections are limited to those whose scholastic record places them in the upper 25 per cent of their class, but the total number of members shall not exceed one-sixth of the total number expected to graduate. Not more than one-third of the membership may be elected during the junior year. Juniors must be elected by a unanimous vote, seniors by a majority vote. The University of Nebraska Chapter was organized November 2, 1914.

Student American Medical Association (SAMA)—Founded in 1950 with the aid of a grant from the AMA, the Student American Medical Association swiftly grew to its present membership of over twenty thousand students, representing more than seventy medical schools. SAMA serves "to advance the profession of medicine, to contribute to the welfare and education of medical students, to familiarize its members with the purposes and ideals of organized medicine, and to prepare its members to meet the social, moral, and ethical obligations of the medical profession."

SAMA members can participate in 4-10 week clinical experiences such as Medical Education Community Orientation (MECO), Indian Health, International Health, and Apalachia Health programs. At Nebraska SAMA has also been instrumental in organizing student confer-

ences on campus, such as a three-day Human Sexuality Conference, noon conferences and special one-day conferences of student interest. Membership at Nebraska closely approaches 100 per cent of the student body.

SAMA also represents student views concerning health care and delivery to Congress as well as other involved medical groups. A SAMA convention dealing with topics of current medical interest is held each year. Any SAMA member is encouraged to attend. Students may also elect to participate on various national SAMA committees such as committees on Medical Education, Health Manpower, International Health, or Ecology.

LEARNING FACILITIES

CLINICAL FACILITIES

University Hospital—The University Hospital is the central and largest unit of the group of buildings comprising the Medical Center. University Hospital has 265 beds and 46 bassinets. The Medical Center also contains 95 beds at the Nebraska Psychiatric Institute, and an additional 52 beds at the Hattie B. Munroe Pavilion, an extended care facility for children. University Hospital features three intensive care units, a Neonatorium for the special care of newborns, the Eppley Radiation Center, and other specialized patient care facilities, all of which utilize the most modern equipment.

University Hospital operates extensive outpatient services in the north wing of the University Hospital building. Among the sixty clinics are Internal Medicine, Surgery, Pediatrics, Obstetrics and Gynecology, and all of their subspecialty services. In addition, the Departments of Ophthalmology, Otolaryngology and Maxillo-Facial Surgery, Dermatology, Orthopedic Surgery, Physical Medicine and Rehabilitation, Neurology, Urology, and Family Practice operate outpatient clinics. A modern emergency service suite is also a part of the complete outpatient services available at University Hospital. Psychiatry clinics are operated at the University Hospital and the Nebraska Psychiatric Institute.

The C. Louis Meyer Children's Rehabilitation Institute, also located on the Medical Center Campus on 44th Street, provides specialized diagnostic and rehabilitative services for the handicapped child. University Hospital operates an outreach clinic in South Omaha at 3018 "W" Street.

The main entrance to the University Hospital is on 44th Street facing west. The hospital administrative offices are on level 4 on the 42nd street side of the hospital building.

The control of the University Hospital is vested in the Board of Regents of the University and exercised through the Chancellor of the Medical Center.

AFFILIATION AGREEMENTS WITH COMMUNITY HOSPITALS

To further emphasize the College of Medicine's concern for improving health care in rural areas, a number of affiliation agreements between the Board of Regents and community hospitals distributed over the state are in effect: West Nebraska General Hospital and St.

Mary's Hospital in Scottsbluff; Community Hospital in Crete; Warren Memorial Hospital in Friend; Good Samaritan Hospital in Kearney; Community Hospital, Inc. in Broken Bow; Bryan Memorial Hospital and Veterans Administration Hospital in Lincoln. In Omaha, affiliations exist with the Douglas County Hospital and the Omaha Veterans Administration Hospital, both fully integrated into the programs of the College of Medicine including two-way, closed-circuit television connections. Four private hospitals also are affiliated: The Children's Memorial Hospital on campus, the Bishop Clarkson Memorial Hospital on campus, the Immanuel Hospital four miles away, the Nebraska Methodist Hospital two and one-half miles away and Salvation Army Booth Hospital two blocks away. Finally, pilot educational programs underway in affiliated community hospitals located in rural Nebraska are worthy of particular mention. The College of Medicine is indebted to the volunteer faculty in these community hospitals for their contributions to the College's teaching efforts.

POSTGRADUATE PROGRAMS

Graduates of the College of Medicine are offered a wide selection of internships and residencies in the University and affiliated hospitals. The graduating student may enter certain residency programs upon graduation, or may elect a straight or rotating internship. There are 60 first-year and over 200 total such positions available. These programs are integrated with the affiliated community hospitals to provide greater flexibility in graduate education.

LABORATORY FACILITIES

Anatomy—The Department of Anatomy occupies space in the lower two levels of Wittson Hall. This location provides entirely new and updated laboratory and classroom facilities. The teaching materials and audiovisual aids have been thoroughly revised and brought up to modern standards.

Biochemistry—The Biochemistry Department is located on levels three and four of South Building. Both levels house the departmental offices, research laboratories, and special supporting facilities such as instrument rooms, cold and constant temperature rooms, and storage areas.

Medical Microbiology—This department occupies space on the second, third, and fourth levels of Wittson Hall and shares student laboratory facilities with the Departments of Anatomy and Pathology. There are excellent facilities for support of the teaching exercises and for support of the active research and graduate programs carried out by the faculty of the department. The diagnostic microbiology laboratory is located in the University of Nebraska hospital and clinics. This laboratory provides material useful in class teaching exercises. Extensive collections of slides, specimens, charts, cultures, and other educational material are available.

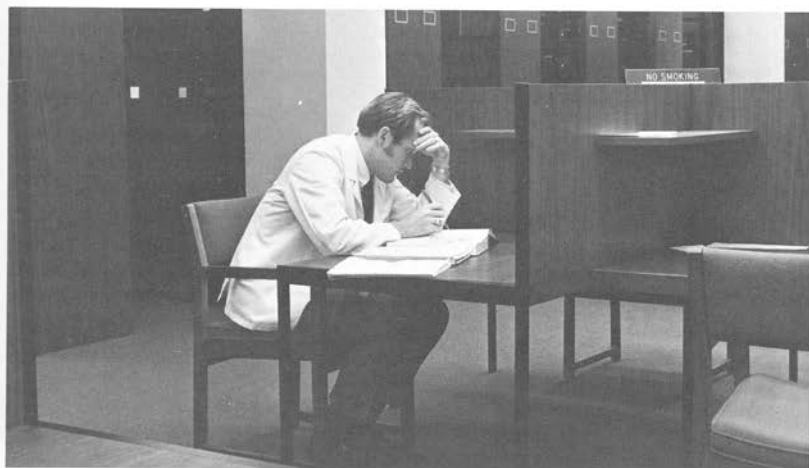
Pathology—The offices and classroom areas are located on the first and second floors of Wittson Hall. The student laboratories are also utilized by Microbiology and Anatomy. Special equipment, loan sets of slides and other materials, with the exception of microscopes, are provided for the student by the department. Approximately 9,000 col-

ored lantern slides and numerous electron microscopy photographs are used for the teaching exercises. A number of audiovisual aids are available to the student both as 35 mm. pulsed tape programs and as microfiche. Programs are from outside sources and prepared locally. All instructional materials may be used on equipment maintained by the Department. Audiovisual aids used in the Department of Pathology are designed to expand the student's experience in the classroom and in the laboratory. The laboratories of the Department of Pathology in the University Hospital provide additional materials and case findings which support the teaching program.

Physiology—The department occupies the fifth, sixth, and seventh levels of the South Laboratory Building. The teaching area for courses in medical physiology and biophysics is located on the fifth level. A lecture and demonstration amphitheater, with sound projection, seats a class of 108. A mammalian laboratory accommodates up to fifty students with surgical tables and recording equipment for eight to ten groups. Research laboratories for staff and graduate students are available on all three floors. Supporting facilities include animal quarters, sterilization equipment, cold room, isotope counting room, photographic dark room, and a shop equipped to fabricate in wood, plastic, metal, and glass.

Museum—The pathological museum of the College of Medicine contains about 3,500 specimens. Nearly every variety of pathological lesion is represented and the constant addition of fresh material from the autopsies performed continually adds to its interest. In addition to the gross specimens are thousands of microscopic sections and a large collection of wax reproductions of various lesions. The museum is an important and necessary adjunct to the teaching of pathology and of clinical medicine.

Clinical Pathology—Classes in Clinical Pathology are held in Wittson Hall, utilizing the comfortable auditorium for class lectures and demonstrations. Extensive use of various forms of audiovisual aids is made throughout the year. The combined student laboratory facilities are available but under the present course structure and limited number of hours available, wet laboratory sessions are not used. Approximately one-third of the course is taught, using case study presentations, employing smaller groups of students in the various seminar rooms in Wittson Hall. Audiovisual and other teaching material is made available to the students from the University Hospital Clinical Laboratories.



LIBRARY FACILITIES

The University of Nebraska Medical Center Library is one of the major biomedical resource libraries in the country. It is housed in the new 71,000 square foot Library of Medicine which is situated above Wittson Hall, a location which gives geographic force to the concept of the library as a catalyzing agent for all activities on the campus. The collection includes more than 160,000 volumes. The library subscribes to more than 2,300 journal titles, and maintains complete back files of all the important journals in the fields of clinical medicine and basic sciences in both English and foreign languages. The library seats 450 readers in a variety of individual study desks and other seating arrangements.

This library incorporates the most sophisticated techniques of information storage, retrieval, and dissemination and anticipates some of the techniques expected to evolve in the future. The National Library of Medicine has named the University of Nebraska Medical Center as the management headquarters for the Midcontinental Regional Medical Library service which means that this library is part of a national network to facilitate the transfer of biomedical information. Students of the College of Medicine, therefore, have access to one of the most complete medical libraries in the Midwest. It also offers an unlimited opportunity for research and additional reading and study through the national network.

A competent staff of librarians is available for consultation and information regarding the methodology of literature searching and information retrieval.

In addition to its regular function, the library maintains a collection of material on the history of medicine in Nebraska and information on graduates of the college and activities of the faculty. It keeps complete files of reprints of writing by the staff members. Incorporated within the library are 2,000 volumes of the Omaha-Douglas County Medical Society, periodic transactions of the Nebraska State Medical Association, and several outstanding medical libraries of former practitioners of the state.



CURRICULUM 1973-1974

In July 1972, a new twelve-quarter medical education program was implemented by the University of Nebraska College of Medicine. It is planned that all future classes will enter in July of each year. Significant curriculum changes designed to provide both an improved medical education and more physicians for the State of Nebraska have been initiated. This endeavor was undertaken to meet the changing health needs of the area and the nation.

This new curriculum allows a student to complete the requirements for the M.D. degree in three calendar years of four quarters each. The admissions requirements for the new curriculum will remain unchanged from the traditional four-year program. Students are encouraged to complete their medical education in three years. However, the design of the curriculum is such that some students who find it necessary or desirable to extend their medical education to four or more years may do so. A general narrative of the curriculum is as follows:

Quarters one through four make up phase one of the twelve-quarter curriculum. The specific areas included in phase one are as follows: Anatomy, Biochemistry, Microbiology, Pathology, Pharmacology, Physiology and an interdisciplinary course in Clinical Medicine. The main emphasis for this segment is on cell and systems biology; behavioral science and basic clinical science techniques are introduced in a hospital setting, an ambulatory setting, and in psychiatry.

Phase two of the curriculum is referred to as the transition. It occurs during quarters five and six and enables the student to synthesize material learned in phase one with his/her beginning skills in clinical science. Much of the time in this segment is devoted to the Interdepartmental Courses: a Mechanisms of Disease course and a clinical rotation called the "Transition Matrix." Additionally the students will have a one month vacation, Reproductive Biology, Clinical Pathology, Correlative Pathology, Pharmacology, Genetics, Radiology, Life Support, Hematology, and Interdisciplinary Small Group teams.

Quarters seven through twelve make up phase three of the curriculum. This segment provides clinical experience for students, including the primary clerkships and electives. Vacation time is also available during these quarters on an optional basis. The primary clerkships are eight weeks long and include: Medicine, Obstetrics-Gynecology, Pediatrics, Psychiatry, and Surgery. Four week requirements are Ambulatory Medicine, Neuroscience, and Community Preceptorship. Students may select both preclinical and clinical electives in four-, eight-, and twelve-week units offered by all departments and divisions of the College of Medicine. The student is able to select a program with faculty counsel that most effectively supports his interests and

career goals. Practical limits on each elective assure a favorable ratio between students and faculty so that learning will be optimal.

POSTDOCTORAL MEDICAL EDUCATION

Medical education is recognized as a continuing process that begins in medical school and continues through the professional life of the physician. Currently, postdoctoral education begins with the internship which, year by year, is becoming more difficult to differentiate from the last years of medical school. From here, there are multiple pathways for many possible career choices in medicine. Each intern and each resident will be registered for the appropriate course for each academic year of his internship or residency at the University Hospital.

Internships are either general or specific. Residency programs are available in Anesthesiology, Child Psychiatry, Dermatology, Family Practice, Internal Medicine, Neurology, Obstetrics and Gynecology, Ophthalmology, Oral Surgery, Orthopedic Surgery, Otolaryngology and Maxillo-Facial Surgery, Pathology, Pediatrics, Pedodontics, Psychiatry, Radiology, Surgery and Urology.



DEPARTMENTS AND COURSES

COURSES OF INSTRUCTION

In the following departments, courses numbered 500 through 699 are basic science and transitional courses. Courses numbered 700 through 799 are clinical medicine courses. Courses numbered 800 through 999 carry graduate credit. "Su" indicates courses offered during the summer quarter; "F" courses offered in the fall quarter; "W" courses offered in the winter quarter; and "Sp" courses offered in the spring quarter. The numbers in parentheses preceding the course description indicate numbers under which courses were offered in 1972-73.

Anatomy

Professors Holyoke (Chairman), Hard (Vice Chairman), Benjamin (Emeritus), Latta (Emeritus), Meader, Rigby, Skultety; Associate Professors Bach, Earle, Gardner, Severn; Assistant Professors Cochran, Feleppa, Landers, Moriarty, Reynolds, Shervey, Stinson; Instructor Amato.

In this department instruction is given in all phases of human morphology including gross, microscopic, and ultrastructural. Developmental phases of anatomy are covered in conjunction with the related clinical Departments of Pediatrics and Obstetrics.

Every effort is made to correlate the teaching with related basic and clinical fields in order to establish the relevance of morphological studies in the solving of problems of clinical medicine. The basic courses are established as core courses presenting fundamentals of universal importance. Opportunity is provided for additional study in depth through a selection of elective courses.

ANATOMY—04

510 or 810 (310) **Gross Anatomy** (9 q h graduate cr) Staff

This course covers the dissection of the entire body. The work is carried out in groups of four to six, each group being assigned to a separate table. The greater part of the instruction is given in the laboratory in a series of video tapes presented at the beginning of laboratory periods and the material is covered at the end of each period through correlation conferences in which the various related departments participate.

511 or 811 (311) **Histology** (8 q h graduate cr) Staff

A detailed study of the histology and histogenesis of the fundamental tissues and organ systems is carried out with lectures emphasizing important points and phases which require special explanation.

512 or 812 (312) **Neuroanatomy-Neurophysiology** (Physiology 512 and Interdepartmental 512) (7 q h graduate cr W) Staff

An interdepartmental course taught conjointly by staff from the Departments of Anatomy and of Physiology and Biophysics. The structure and function of the peripheral, autonomic and central nervous systems, with clinical correlations.

ELECTIVES—

NOTE: Prerequisite for all elective courses is permission.

Special Studies in Anatomy Staff

Students are offered the opportunity to pursue studies in the various fields indicated in depth beyond that given in the basic courses. The work will consist of lectures, demonstrations, designed readings and laboratory work, depending on the nature of the material and the hours of registration. Full credit indicated can be achieved by re-registration in a course should a student elect to do so. Students should contact the Chairman of the Department for information relative to arranging for any of these courses.

- 612 (341A) **Electronmicroscopy**—Spring quarter
 614 (341B) **Histochemistry**—Spring quarter
 616 (341C) **Hematology**—Spring quarter
 618 (341D) **Cytogenetics**—Spring quarter
 620 (341F) **Embryology**—Spring quarter
 621 (341E) **Teratology**—Spring quarter
 622 (341G) **Neuroanatomy**—Spring quarter
Applied Anatomy (1-5 q h cr) Holyoke, Staff
 Demonstrations, dissections, and lectures covering the gross, topographical, and surgical aspects of human anatomy. Special emphasis will be placed on clinical applications.
- 626 (342A) **Extremities**
 628 (342B) **Thorax and Abdomen**
 629 **Head and Neck**
 630 (342C) **Topographic Anatomy**
 632 (342D) **Pelvis and Perineum**
 690 (349) **Research in Anatomy** Staff
 Prereq: Arrangement with departmental staff
 Work can be carried out in any of the subdivisions of Anatomy.

GRADUATE COURSES

- 813 (313) **Human Embryology** (4-6 q h cr) Severn
 902 (350) **Special Topics in Anatomy** (1-3 q h cr per q, max 12) Staff
 Prereq: Permission
 A systematic coverage of the current problems, techniques and literature pertaining to the major subdivisions of the field of anatomy. Gross anatomy, histology, embryology, and neuroanatomy. These will be taken in rotation through the department.
- 906 (352) **Fundamentals of Histochemistry** (4 q h cr Sp) Shervy
 Prereq: Anat 811, Biochem 810, or permission of instructor
 Development of the basic concepts and methods for identification of lipids, carbohydrates, proteins, enzymes, and inorganic compounds in tissue sections.
- 908 (353) **Advanced Hematology** (Pathology 865, Internal Medicine 948) (2-3 q h cr per q, total 6) Rigby
 910 (354) **Advanced Human Embryology** (4 q h cr) Severn
 Prereq: Anat 902, or permission of instructor
 An examination of our present knowledge of human morphogenesis based on an analysis of various developing organ systems and their sequential developmental relations.
- 912 (355) **Experimental Embryology** (4 q h cr) Severn
 Prereq: Anat 902, 910, or permission of instructor
 An introduction to experimental procedures involving non-human material to explain some of the causal mechanisms underlying the processes of growth, differentiation, and morphogenesis, with correlation of these mechanisms to human development.
- 914 (356) **Advanced Human and Comparative Neuroanatomy** (4 q h cr) Earle
 Prereq: Anat 812 or 902, or permission of instructor
 A phylogenetic study of the nervous system of vertebrates including a practical analysis of techniques used in experimental neurology.
- 920 (361) **Advanced Gross Anatomy** (Surgery 920, Dentistry 892) (3-10 q h cr) Bach, Holyoke, Severn
 Prereq: Anat 810, 811, 812, or permission of instructor
 Studies of general and special gross dissection of the human body.
- 922 (362) **Fundamentals of Electron Microscopy** (5 q h cr) Gardner
 Prereq: Anat 811, or permission of instructor
 Instruction in the general theory, and practice of operation of the electron microscope, including special methods involved in fixation, embedding, sectioning, and mounting of specimens.
- 923 (364) **Advanced Neuroanatomy and Neurophysiology** (3-9 q h cr) Skultety
 Prereq: Permission of the instructor
 An advanced and detailed study of the anatomy and physiology of the human central nervous system.
- 924 (363) **Selected Problems in Electron Microscopy** (5-10 q h cr) Gardner, Staff
 Prereq: Anat 922
 Special problems will be selected involving the ultrastructure of organelles within

cells of plasma membranes, interrelationships between cells or the characteristics of intercellular substances as revealed by the electron microscope.

- 928 (365) Vertebrate Cytogenetics** (4 q h cr Sp) Amato
Lect 2 lab 4. Prereq: Permission of instructor
A lecture and laboratory course dealing with the behavior of somatic and germinal cells in division. The medical aspects of chromosome anomalies will be emphasized. Given during the first 4 weeks—spring quarter.
- 930 (366) Molecular and Cellular Aspects of Development** (3 q h cr) Severn
Prereq: Permission of instructor
A study of the cell, its organelles and specific products and their role in developmental biology.
- 932 (367) Topographical Anatomy** (4 q h cr) Holyoke, Severn
Prereq: Permission of instructor
A study of the structural relationships of the human body as viewed from serial sections in horizontal and sagittal planes. Given by arrangement and upon sufficient demand.
- 934 (368) Teratology** (2-4 q h cr Sp) Severn, Staff
Lect 2 lab 6. Prereq: Permission of instructor
A study of potential or known etiological causes of congenital malformations; their deviation from normal development; their frequency and distribution, and their management. Given during the second 4 weeks—spring quarter.
- 936 (369) History of Anatomy** (1 q h cr) Staff
Prereq: Permission of instructor
A series of twelve lectures or seminars on various phases of the history of anatomy as a science.
- 970 (360) Seminar** (1 q h cr per q F, W, Sp) Staff
Prereq: Permission
Presentation of problems and accomplishments of investigations conducted by the graduate students and members of the department, with critical discussion.
- 899 (398) Master's Thesis** (9-15 q h cr)
- 999 (399) Doctoral Dissertation** (cr arr)

Anesthesiology

Professors D. W. Wingard (Chairman), J. Redding; Research Professor J. G. L. Williams; Associate Professors Barmore, Cuka, D. H. Thompson; Assistant Professors Brauer, Frank, Newland, Therien, Watland; Clinical Associate Cole; Instructors Banerjee, Barjenbruch, Cooke, Gordon, Hachiya, Melcher, O'Gara, L. D. Smith, Walling; Assistant Instructor Faier.

The curriculum in Anesthesiology aims to introduce the student to the broad aspects of anesthesiology, management of the comatose patient, and the problems of the perioperative period.

We hope to accomplish this by giving him a better understanding of applied respiratory physiology, teaching respiratory and circulatory resuscitation, recognition and management of airway obstruction, artificial ventilation of the lungs, and management of patients with acute and chronic respiratory problems. The student will have the opportunity to handle acute problems and make rapid decisions under supervision.

Courses of study involve familiarizing the student with some anesthetic agents and adjuvant drugs, thus adding to his understanding of clinical pharmacology and making him aware of the problems involved in evaluating and preparing a patient for the physiologic and psychological changes associated with the perioperative period.

ANESTHESIA—06 (Prior to 1971-72 these courses were listed under Department of Surgery)

602 (80-341A) Life Support Systems

Seminar and laboratory course during second year designed to provide an understanding of some of the common causes and mechanisms of sudden death, and to learn skills in an effective approach to resuscitation and life support.

ELECTIVES—

720 (80-346A) Anesthesia Clerkship (4 or 8 weeks)

Opportunity to gain an understanding of preoperative evaluation and preparation of patients for anesthesia and operation, clinical pharmacology of adjunctive drugs and anesthetic agents, respiratory physiology, principles of metabolic support of the patient undergoing an operation, principles of resuscitation, care of the unconscious patient, inhalation therapy, and approaches to the control of pain.

725 Intensive Care Clerkship (Seniors only) (each 4 weeks)

Prereq: Anes 720

Opportunity to gain an understanding of and experience in the application of life

support measures for patients requiring ventilatory and circulatory assistance outside the operating room.

760 (80-348B) Off-Campus Anesthesiology (each 4-8 weeks)

Arrangements in other medical centers can be made for extra-ordinary learning experiences not readily available within our assets. Department of Anesthesia faculty will be pleased to work with the student interested in an extramural clerkship when credit for this clerkship is desired.

772 Anesthesiology Internship and Residency

A two- to four-year educational program with gradually increasing responsibility. The trainee develops skills and knowledge in the pharmacology of anesthetic agents, the administration of regional and general anesthesia, and the preoperative and postoperative care of patients. In keeping with the career goals of the trainee, special programs in subspecialty areas and research methods are available.

799 (80-349A) Research in Anesthesia (By arrangement)

Opportunity to select an area of interest from aims of Anesthesia Clerkship for more intense study. Definition of problems and program of learning to be decided upon discussion with faculty. Limit by arrangement.

ANESTHESIA GENERAL EXERCISES—

Anesthesia Grand Rounds (Every Friday 5:00-6:00 p.m., except first Friday of month)

Anesthesia Seminars (Every Friday 4:00 p.m.)

Presentation and discussion of subjects and articles related to Anesthesia.

Basic Science Review (Every Saturday 8:30-10:00 a.m. Sept.-June)

Biochemistry

Professors Ruegamer (Chairman), Carver, Harman, Himwich, Matschiner, Ryan, Tobin; Associate Professors Barak, Barker, Copenhagen, Davis (Emeritus), Goldsmith, Hofert, Issenberg, Lee, Mahowald, Mehلمان, Mirvish, Raha, R. Ramaley, Wilder; Research Associate Professor Haven; Assistant Professors Cavalieri, Crass, Johnson, Phares; Instructors Smith, Willingham.

In addition to a curriculum of required and elective courses offered to medical students, the department also offers one or more graduate-level courses each quarter to graduate students working for an M.S. or Ph.D. degree in Biochemistry or related disciplines.

BIOCHEMISTRY—08

510 or 810 (310) Cellular Biochemistry (6 q h graduate cr F, Su) Ruegamer and Staff
A study of the fundamental aspects of cellular biochemistry through basic intermediary metabolism. The major areas of carbohydrate, protein, lipid, amino acid and nucleic acid chemistry and metabolism are covered. In addition, protein synthesis and genetic control, radioisotope theory and application, biological oxidations, and enzyme chemistry and kinetics are studied. Demonstrations and conferences are included as part of the course.

511 or 811 (311) Systems Biochemistry (4 q h graduate cr Sp) Barker, Hofert, Kirkpatrick, J. Ramaley, Ruegamer and Staff.

Prereq: Biochem 510/810 or its equivalent

The anatomy, biochemistry, pharmacology and physiology of the endocrine system is taught by faculty from the Biochemistry, Pharmacology, and Physiology and Biophysics Departments with clinical correlations offered by faculty from several clinical departments.

Experimental Biochemistry—

Prereq: Biochem 510/810

The course consists of three categories of electives: 1) Colloquia; 2) Selected Laboratory Techniques; and 3) Research Projects. Those students who wish to continue a research project in subsequent quarters may do so by making arrangements with the individual faculty member involved.

512 or 812 (312A) Colloquia (1 q h cr F)

Prereq: 510/810 or its equivalent

Small groups of students meet with faculty advisers to discuss a subject in depth. The student reads selected papers from the biochemical literature and discusses the experimental design, methods, data, and interpretation of the data with the group.

513 (312B) Laboratory Techniques (F)

The student spends a minimum of one afternoon each week in the research laboratories of faculty members, learning the principles and application of selected techniques to the study of problems in biochemistry.

596 (312C) Research Projects (F, W, Sp, Su)

The student chooses from a variety of research projects directed by individual faculty members. The student helps to plan the project, learns to perform the techniques and methods needed, collects the data, and helps to summarize and interpret the results.

Advanced Topics in Biochemistry (5 q h cr per subdivision except Special Topics, see below)

Prereq: Biochem 510/810 and permission of instructor. Available to all students

One subdivision is given each fall, winter, and spring quarter except Special Topics which will be given as the opportunity or need arises. The subdivisions constitute a comprehensive and advanced coverage of the chemistry and intermediary metabolism involved in the major areas of biochemistry.

720 or 920 (350A) Enzymes Mahowald and Staff

722 or 922 (350B) Carbohydrates Hofert and Staff

724 or 924 (350C) Proteins R. Ramaley and Staff

726 or 926 (350D) Nucleic Acids Barker, Matschiner, and Staff

728 or 928 (350E) Hormones Barker, Hofert and Staff

730 or 930 (350F) Lipids Goldsmith and Staff

740 or 940 (350G) Special Topics (1-5 q h cr)

Advanced Techniques in Biochemistry (1-8 q h graduate credit per subdivision) The subdivisions given below are given periodically and permit advanced study of techniques or research in biochemistry other than thesis research.

950 (360A) Instrumental and Physical Procedures Staff

952 (360B) Microbiological and Animal Procedures Staff

954 (360D) Radioisotope Procedures Goldsmith and Staff

970 (370) Seminar in Biochemistry (1 q h graduate cr F, W, Sp, Su)

The seminar is designed to cover subjects of current biochemical interest and research by staff and students.

996 (380) Research Other Than Thesis (1-9 q h graduate cr)

Students wishing to do research other than for thesis credit may do so by special arrangement with a faculty member of the department and with the approval of the Graduate Committee.

899 (398) Master's Thesis (cr arr)

999 (399) Doctoral Dissertation (cr arr)

Dermatology

Professors Fusaro (Chairman), Cameron (Emeritus); Associate Professors Johnson, Koh; Assistant Professors Cryan, Frichot; Instructors Fredrickson, Parks, Rustad; Senior Consultants Bell.

Instruction in dermatology is provided through lectures, self-instructional materials and clinical experience in University Hospital and its affiliated hospitals under the supervision of attending dermatologists. The educational objective is to provide the student with basic diagnostic and therapeutic skills for the care of patients with common dermatologic diseases.

DERMATOLOGY—16

Dermatology OPD Senior Clerkship (part of Ambulatory Medicine 708)

Period offered: 4 weeks for ½ day a week on only one of the following: Monday a.m., Tuesday a.m., Wednesday a.m., Thursday a.m. and Friday p.m.

Student limit: 2 students per ½ day

The dermatology OPD clinic for medical students is part of the course in Ambulatory Medicine (708). Each student will be assigned to a resident and will follow patients for a month period during which time he will be supervised by the staff in dermatologic interview, physical diagnosis, topical therapy and cutaneous therapeutic procedures (skin biopsy, cautery, cryotherapy, etc). In addition, once a week (Tuesday 8-9 a.m.) there is a presentation of color kodachromes of common dermatologic diseases. No matter which half day the student elects for his dermatology clinic, the kodachrome presentations will supplement and broaden his clinical experience.

760 (348) Off-Campus Elective (4 or 8 weeks)

This is a full-time elective away from the University Hospital and its affiliated hospitals. Several of the part-time dermatologic staff take one student per month in their private offices. An alternative for the student is to take his dermatology experience at another dermatology training center out-of-state in another university. Options must be approved on an individual basis.

Family Practice

Professor Land (Chairman); Associate Professors Faithe, Fellman, Toronto; Assistant Professors Bressman, Koefoot, Long, Retelsdorf; Clinical Associates Adler, Aftonomos, C. L. Anderson (Emeritus), R. C. Anderson, Arrasmith, Ashby, AuchMoedy, Bagby, Bare, Batty, Bechtel, Becker, Bednarek, Bell, Beran, Bonebrake, Bonniwell, Byrd, Carlson, Carson, Cas-sel, Coe, Colon, Cooper, Denker, Doering, Edelman, Ekeler, Elfeldt, Embury, Engdahl, Fairbanks, Fellows, Finegan, Ford, Forsman, Francis, French, H. Gentry, Getty, Gilg, Glover, Grace, Graves, Grush, Harvey Jr., Hayworth, Heusel, Jackson, Jensen, G. Johnson, H. Johnson, R. Johnson, Kirchner, Kish, Kroupa, Kuper, Donald Larson, Dwight Larson, Lemke, Long, Mable, Madden, Martin, Mason, McGee, McMinn, Meckel, Medlar, Metcalf, O. Miller, W. Miller, Morgan, Mountford, Muffly, Murphy, Myers, Nagengast, Nelson, Niehaus, Nilson, Olson, Olsson, Passer, Peterson, Prescher, Quick, Ramsay, Rowen, Rudolph, Samuelson, Saults, Schutz, Scott, Shapiro, Shiffermiller, Shopp, Shuey, Sievers, Sitorius, Sobota, Steen-burg, Stewart, Stryker, Tollefson, Treptow, Underriner, Walker, Wallace, Walvoord, Wanek, Waters, Weeks, Weldon, Westbrook, Weston, Wilkinson, Wilson, Zimmer, Zlomke; Instruc-tors DeRoin, Gensler, Holsclaw, Krickbaum, Parkison; Assistant Instructors Scott, Walker; Senior Consultants A. B. Anderson, A. W. Anderson, Benthack, W. Gentry, Haslam, Heim, Howard, Hughes, Leininger, McMillan, Peterson.

The objective of this Department is to prepare the student to carry out his function as a leader and coordinator of the health care team as he provides access to the health system and assumes continuing responsibility for management of his patients over a long period of time. More specifically, the program is designed to do the following:

1. Provide a stimulating experience in a model of family practice which will imbue the student with a philosophy of family practice and an understanding of the role of the family physician.
2. Help the student acquire excellent skills in diagnosis, treatment, and management of patients and technical procedures appropriate for family practice.
3. Help the student acquire the knowledge and appropriate depth in various fields of medicine encompassed by family practice.
4. Provide opportunity for the student to develop mature clinical judgment and apprecia-tion of the limitation of his competence.
5. Provide understanding of research and methodology in problems relating to the deliv-ery of health services.
- * 6. Encourage students to develop life-long habits of learning and an understanding of the role of continuing education in maintaining professional excellence.

FAMILY PRACTICE—18

Clinical Medicine I (Interdepartmental 540)

The clinical medicine unit is fully integrated with didactic presentations of psychic growth and development, and follows demonstrations and discussions of the psychodynamics which occur between observer and patient during an interview. After the demonstrations and discussions the student is assigned to interview two separate chronic hospitalized patients. After several interviews with each patient he meets for group discussion with the guidance of a psychiatric counselor.

Clinical Medicine II (Interdepartmental 542)

The program in quarter two expands upon the experience of interviewing. The students are assigned in groups of four to six to a faculty member and meet weekly to develop their sophistication in collecting information about major complaints from patients. During this experience they inquire from patients and record their major problems. They also discuss and form attitudes concerning their ethical role as a physician in the medical society. A second portion of this quarter is devoted to a didactic introduc-tion to history taking and physical examination.

Clinical Medicine III & IV (Interdepartmental 544)

During these two quarters the student is assigned to an individual preceptor charged to train him and provide experience broad enough to perform an independent, com-plete patient history, systems review, and physical examination. In parallel with the Basic Science systems units there will be weekly clinical correlative seminars covering 20 to 30 common patho-physiologic problems. The clinical approach, systems review, and specialized physical examination are presented relative to the problem under dis-cussion. During this program the extent, duration, and thoroughness of patient contact progresses as does the basic knowledge and experience of the student.

602 Family Practice Seminar

Seminars are held approximately once per month during quarters three and four when eight to ten practicing family physicians in the State of Nebraska present a seminar to the students in a small group discussion.

- 705 (348) Community Preceptorship (4, 8, or 12 weeks)**
This is a clerkship with a solo, dual, or group practice in which the student is afforded the opportunity of observing a local community and its interrelationships with the practice of medicine in that community. The student may elect an additional 4 or 8 weeks, and so complete a total of 12 weeks in an outstate preceptorship if so desired.
- 720 (342A) Family Practice Clinic Clerkship**
A clinical experience in the Family Practice Clinic of the Medical Center involving physical examinations for the Concentrated Employment Program and treatment of acute illness and trauma. Participation in Family Practice seminars. Students may also take this as part of their ambulatory medicine requirement. Limit 2.
- 722 (342B) "W" Street Family Practice Clinic Clerkship**
A clinical experience at the University satellite clinic in South Omaha. Covers all clinical areas. Full-time and volunteer faculty. Limit 2.
- 726 (342C) Family Practice Clerkship—Immanuel Medical Center**
A clinical experience, both inpatient and outpatient, on the Family Practice service. Average monthly census of patients per volunteer faculty member is 25. Limit 2.
- 728 Family Practice Clerkship—Nebraska Methodist Hospital**
Clinical experience, both inpatient and outpatient, on the Family Practice service. Average monthly census of patients per volunteer faculty member is 25. Limit 2
- 732 (346B) Community Emergency Room—Methodist**
This is an experience at the Methodist Hospital and will show the operation of a community emergency room in a large community by full-time staff men who are also volunteer faculty of the College of Medicine. Limit 2.
- 734 (346C) Community Emergency Room—Immanuel**
See 346 B. Limit 2.
- 736 (346D) Community Medicine Clerkship**
Observation and experience in county health departments including environmental health, school health, public health clinics, voluntary health agencies, welfare department medical activities, and industrial medicine. Limit 4.
- 760 (346A) Private Practice Office Clerkship**
This clerkship offers a chance to participate in and observe private practice in family physicians' offices in Omaha and Lincoln.
- 762 (346E) Migratory Health (June only)**
The student will participate in the Nebraska Migrant Health Project as a member of the health team in the Family Health Clinics and other activities. Limit 1.
- 764 (346F) Indian Medicine Clerkship**
This experience at the United States Public Health Service Hospital in Winnebago, Nebraska, includes observation and experience in dealing with the medical and social problems of the Indian. It involves working in the 42-bed USPHS hospital and working in the outpatient clinics on the Indian reservation. Living facilities are furnished by USPHS. Limit 1.
- 772 (347A) Family Practice Core Residency**
This full-time three-year program of clinical assignments plus seminars and conferences has been designed to prepare the student to meet the demand for a single, competent primary physician for the entire family. The program is flexible enough to allow the student to elect assignments based on his interests and needs. Specific assignments include one half day per week in each of the two Family Practice Clinics (University Hospital and W Street) and a four month experience in one of the outstate Nebraska community hospitals affiliated with the Medical Center.
- 774 (347B) Family Practice Fellowship**
During this year long advanced program, the student will continue his residency training on a half time basis. He will also assume half time responsibilities in the department's teaching activities with faculty status of Instructor.
- 799 (349) Research Project in Family Practice (4 weeks)**
The student may select a project in which he is particularly interested and with the approval of the faculty may pursue this project intensively for four weeks. Such projects might be concerned with the delivery of health care or with the value of screening procedures. Faculty advice will be given and the research project will be structured.

Interdepartmental

INTERDEPARTMENTAL—19

- 500 (300) Dean's Course (F, W, Sp) Kugel**
Medicine has become an ever more complex field as society demands more health care for more people, as people request the physician to know all about matters such

as sex education, as new knowledge in medicine must somehow be made part of the curriculum, and as more students from minority groups must be incorporated into the system. These and other topics form the basis of the Dean's Course. The content of the course is reviewed with the Dean by a student committee and, working together, the course takes form. This course attempts to cover current health issues which have not yet been developed as part of the regular curriculum.

511 or 811 Endocrinology (4 q h or Sp) Staff

The anatomy, biochemistry, pharmacology and physiology of the endocrine system is taught by faculty from the Departments of Biochemistry, Pharmacology, and Physiology and Biophysics with clinical correlation offered by faculty from several clinical departments.

512 (314) Neuroscience (Anatomy 512, Physiology and Biophysics 512) (W)

An interdepartmental course taught conjointly by staff from the Departments of Anatomy and of Physiology and Biophysics. The structure and function of the peripheral, autonomic, and central nervous systems with clinical correlations.

514 (310) Reproductive Biology (S) Severn

The course in human reproduction is an integrated course in obstetrics, embryology and pediatrics, which is to provide the students with a basic knowledge of the biological basis of conception, growth and development and birth. The course deals with care and treatment of the obstetric patient, the intrauterine patient and the neonatal patient and covers some of the basic problems which may and do occur.

518 (311) Human Genetics (total 16 hrs) Eisen, Staff

Current principles and concepts of medical genetics are discussed. Examples of gene and chromosome disorders, their mechanisms, and possible etiologies are presented. Stress is placed upon an integration of both basic science and clinical points of view. Particular emphasis is placed on the subject of the current status and implications of in utero detection of genetically abnormal fetuses. Procedures of genetic counseling are discussed throughout. This course, or its equivalent, is required for the elective coordinated laboratory course in Human Cytogenetics.

540 (313) Clinical Medicine I (S)

The clinical medicine unit is fully integrated with didactic presentations of psychic growth and development, and follows demonstrations and discussions of the psychodynamics which occur between observer and patient during an interview. After the demonstrations and discussions the student is assigned to interview two separate chronic hospitalized patients. After several interviews with each patient he meets for group discussion with the guidance of a psychiatric counselor.

542 Clinical Medicine II (F)

The program in quarter two expands upon the experience of interviewing. The students are assigned in groups of four to six to a faculty member and meet weekly to develop their sophistication in collecting information about major complaints from patients. During this experience they inquire from patients and record their major problems. They also discuss and form attitudes concerning their ethical role as a physician in the medical society. A second portion of this quarter is devoted to a didactic introduction to history taking and physical examination.

544 Clinical Medicine III & IV (W, Sp)

During these two quarters the student is assigned to an individual preceptor charged to train him and provide experience broad enough to perform an independent, complete patient history, systems review, and physical examination. In parallel with the Basic Science systems units there will be weekly clinical correlative seminars covering 20 to 30 common patho-physiologic problems. The clinical approach, systems review, and specialized physical examination are presented relative to the problem under discussion. During this program the extent, duration, and thoroughness of patient contact progresses as does the basic knowledge and experience of the student.

650 Mechanisms of Disease Course (F)

The overall objective of this course is to provide a transitional experience between the first four quarters of the curriculum which are devoted primarily to preclinical education and the remaining quarters which will be devoted primarily to clinical training. It will re-emphasize application to selected disease entities. The diagnosis and management of clinical problems will be the dependent theme.

700 Introductory Clinical Experience (Matrix) (F)

During the transition period the student will rotate through a wide variety of weekly general and specialty clinic situations with a view to self assessment, review and preparation to beginning clerkship responsibilities.

760 (340) NOVA

Under the sponsorship of the University Year for ACTION, Nebraska became the first medical school to develop an elective of applied Sociological Medicine away from the Medical Center. Students may elect a three-month program under the direct supervision of a physician in providing volunteer service and educational experience in the community rather than in the more cloistered University. Electives include the Douglas County Hospital Annex; the Broken Bow, Nebraska Model Rural Health Center; the Southeast Nebraska Rural Health Care Project; Scottsbluff, Nebraska Migrant Mexican-American Workers Health Clinic; the Omaha Urban Indian Health Center; along with others which are in the developmental stage. A student is given the opportunity in a constructive manner to reject blueprints of the past and become architects of the future. It is hoped that physicians in training will be provided with a deeper understanding and awareness that the release of human potential and broadening of cultural values is readily available in Rural America.

772 (347) Rotating Internship

The Rotating Internship is a one-year educational experience which is interdisciplinary. During this year the intern gains clinical experience in the inpatient and outpatient areas in various departments of the medical center. All rotating interns take at least four months of Internal Medicine. They may then elect two-month or longer services in any of the major clinical training programs with approved residencies. While gaining experience in a clinical department the intern is under the supervision of the faculty of that department. Overall supervision is by the House Staff Committee of the Medical Center.

Internal Medicine

Professors Shipp (Chairman), Stone (Vice-Chairman), Beber (Emeritus), Dunn (Emeritus), Foley, Grissom, Harman, Henn, Kass, Lehnhoff, Lemon, Paustian, Rigby, Tobin, Ware; Associate Professors W. Angle, Barak, Brazer, J. C. Davis, R. B. Davis, Dye, Ecklund, A. Greene, Hamilton, Hubbard, Kirk (Emeritus), Lim, R. Long, Loomis, Matooke, H. Morris, Muffy, Pepper, Pratt, Quaife, Rosenlof, Ward, Wurl, Zamel; Assistant Professors Bucholz, Crass, S. Davis, Dickerson, Gallagher, J. Gordon, W. Graham, Hammes, Hankins, Harvey, R. Hoising, Holcombe, D. Jackson, Joranson, Kessinger, Knott, Langdon, L. Lee, J. Lewis, Meyer, Monto, Novak, Nutzman, Nye, L. O'Brien, C. Root, J. Sage, Schmid, M. Scott, Settles, Slabaugh, Sorrell, Starke, Stratbucker, Sticher, B. Taylor, R. F. Thompson, Watson, Wyrens, Zacharia; Instructors Bacon, Bresnahan (Emeritus), Dewey, Matthews, Neihaus, Rubin, Schellak, Simmons, Stemper, Tomhave, A. Weaver, W. Weaver, Westmore; Chief Resident R. Wigton; Senior Consultants Albertson, Fleishman, Hull, R. Lewis, Margolin, Moody, Muskin, E. Reed, Wright.

MEDICAL SERVICES:

Hospital, University of Nebraska—Chief, Joseph C. Shipp
Hospital, Veterans Administration—Chief, Robert Ecklund
Hospital, Douglas County—Chief, J. C. Davis, Jr.
Hospital, Bishop Clarkson Memorial—Chief, Frederick Ware
Hospital, Immanuel Medical Center—Chief, Jack K. Lewis
Hospital, Nebraska Methodist—Chief, John C. Sage
Hospital, Bryan Memorial, Lincoln—Chief, Hiram Hilton
Hospital, University Medicine Clinics—Chief, Joseph C. Shipp
Division of Cardiology—Head, Robert Eliot
Division of Endocrinology and Metabolism—Head, Daniel B. Stone
Division of Digestive Diseases and Nutrition—Head, Frederick Paustian
Division of General Medicine—Head, LeeRoy Meyer
Division of Hematology—Director, Perry Rigby
Division of Infectious Disease—Head, J. C. Davis, III
Division of Oncology—Head, Henry Lemon
Division of Pulmonary—Head, Irving Kass
Division of Renology—Acting Head, George Loomis

It is the aim of instruction in Internal Medicine to establish a broad and thorough understanding of patients with disease and to develop a scholarly approach to the study of medical problems. Intensive study by each student of relatively fewer patients is emphasized rather than superficial observation of many patients. The student studies health as well as disease, and early phase as well as late stage disease. Small group conferences (four to six students) are utilized, with each member of the group participating. Time is allowed in each weekly program for reading, research, and other independent pursuits for the purpose of establishing habits for self-development that will persist for life.

INTERNAL MEDICINE—20

602 (325) Hematology

Basic technics and information concerning normal blood and disorders of the blood system will be presented.

705 (334) Junior Medicine (8 weeks)

The student is an integral part of the team, including medical students, house officers, faculty, nursing staff, dietetic staff, social service staff, which is responsible for the care of the in-patient. The student participates actively, under supervision, in diagnosis and care, with a close tutorial relationship with others in the team in teaching rounds and conferences. Students will be assigned to the University, Veterans, or Douglas County Hospital.

708 (342) Ambulatory Medicine (8 weeks)

Ambulatory medicine, or the office practice of medicine, is an integral part of the practice of medicine. Learning ambulatory medicine will be of even greater importance in the next decade. The student will be a part of the team including house officers, faculty, nursing, dietetic and social service staff, which focuses upon the ambulatory patient and gives attention both to the healthy person and to the early detection and treatment of disease. Office preceptorship in Omaha or Lincoln for four weeks may be chosen as an alternative to the second required Ambulatory Medicine Clinic.

715 (344) Inpatient Clerkship (max 16 students)

Offered in the senior year for 8 weeks, which is preferred, but also for 4 weeks, as an inpatient general internal medicine experience. It is an advanced sequel to 705 and gives the student greater responsibility. Specific hospitals in Omaha or other medical centers may be chosen by the student by arrangement with the department. Students electing 8 weeks will have preference for their hospital assignment.

720 (346B) Use of Isotopes in Internal Medicine Matoule, Novak, Quaipe

721 (346C) Cardiology (4 weeks; max 4 students) Eliot, Staff

A combined offering of medicine, surgery and pediatrics. Hemodynamics, electrocardiography, photocardiology, inpatient and outpatient experience. May be taken as combined course or in individual department.

722 (346D) General Medicine (4 weeks; max 8 students) Meyer

Limited to senior students, this elective, in the period of one month, is designed to review basic concepts in Internal Medicine. In addition, emphasis will be placed on reviewing EKGs. Some time will also be spent on reviewing uncommon diseases by case presentation.

723 (346E) Diabetes, Endocrinology and Metabolism (max 4 students) Stone, Ecklund, Gallagher, Shipp, Staff

This elective is designed to offer careful study of endocrine disorders. Active participation in the clinical consultation service and endocrine outpatient clinics is a primary function. These activities include consultation at all University affiliated hospitals, review of diabetes mellitus and metabolic disorders, and conjoint clinics with obstetric and pediatric endocrinology. Emphasis is made on performance and understanding of the complex diagnostic evaluation of endocrine function. Individual literature review and study is encouraged during twice-daily staff rounds, as well as at weekly topical seminars.

724 (346G) Gastroenterology (max 3 students) Paustian, Staff

This elective in digestive diseases and nutrition emphasizes the application and correlation of the basic science principles of physiology, pharmacology, biochemistry and pathologic anatomy in clinical gastroenterology. There will be one position available on each of the Gastroenterology Services at the UNH, BCMH, and the OVAH, DCH combined service.

725 (346H) Hematology (max 10 students) Rigby, Staff

The Hematology Division offers a broad program of training in the Departments of Internal Medicine, Pediatrics, and Pathology with emphasis on new concepts in the management of hematologic problems. Patient care serves as a basis for teaching the principles of diagnosis and management of the anemias, leukemia, hemorrhagic disorders and disorders of immunology. Patients are seen in the University Hospital on the Hematology Service as well as the Veterans Hospital, Douglas County Hospital, and the Clarkson Hospital. Consultations are answered from general internal medicine and other subspecialties and patients are seen in the adult and pediatric-hematology outpatient clinics. Teaching in a more structured manner is done in weekly blood morphology demonstration and in "Blood Club," in which a variety of hematologic subjects are discussed. Students who elect Hematology have ample opportunities for reading and a research opportunity can be provided for the interested student by special arrangement.

- 726 (346I) Infectious Disease** (cr arr) Davis, Staff
- 727 (346J) Renal** (4 weeks; max 1 student) Schwid, Staff
- 728 (346K) Metabolism** (cr arr) Tobin, Associates
- 729 (346L) Medical Electronics** (F, Sp; 8 weeks, ½ time; min 3 students, max 6) Haack, Staff
Prereq: Physiol 926
- 730 (346P) Oncology** (max 4 students) Lemon, Foley, Staff
Medicine, radio-therapy, and surgery inpatient and outpatient experience. Training in early detection, carcinogenesis, cell biology, clinical pharmacology, paraendocrine syndromes, and kinetics of cell growth including research experience if desired.
- 731 (346S) Psychosomatic Medicine** (max 4 students) Ward
Training in the principles of neurophysiology in relation to the psychophysiological reactions with emphasis on the management of patients with psychophysiological illnesses.
- 732 (346T) Pulmonary** (max 4 students) Kass, Staff
One student may spend 4 weeks in Pulmonary Physiology Lab.
- 733 (343) Honors Program in Medicine** (cr arr, 8 weeks; max 4 students) Shipp, Stone, Staff
This program excludes those features that are an inherent part of the regular programs in the Department of Medicine. The program, designed for students with high aspirations, offers an intensive learning experience, in a number of restricted fields, with intellectual benefits that are capable of application to any problem that can be analyzed by the scientific approach. The program encourages aspiring students to acquire a critical approach in identifying problems in medicine and its related disciplines, in collecting data, in analyzing data, in drawing inferences, and in communicating with clarity. The general objective is to increase the quality of the intellectual life, to emphasize a scientific approach, to enhance ability in communication, and to develop those intellectual qualities that have generalized application.
- 734 (341A) Advanced Internal Medicine Seminar Course** (cr arr) Staff
Especially to be considered with Basic Science part-time electives.
- 736 or 936 (350) The Physiology of Symptoms** (1 q h cr per q—total 3) Grissom
- 737 or 937 (351A) Diabetes Mellitus** (1 q h cr per q—total 3)
- 738 or 938 (351B) Advanced Endocrinology** (1 q h cr per q—total 3)
- 739 or 939 (351D) Metabolism and Nutrition** (1 q h cr per q—total 3)
- 740 or 940 (351E) Rheumatology** (1 q h cr per q—total 3)
- 741 or 941 (352) Advanced Gastroenterology and Biliary Diseases** (1 q h cr per q—total 3) Paustian, Staff
- 742 or 942 (353A) Cardiologic Diagnosis and Electrocardiography** (4 q h cr per q—total 12)
- 743 or 943 (353B) The Management of Heart Disease** (3 q h cr per q—total 9)
- 744 or 944 (353D) Hypertension and Nephritis** (3 q h cr per q—total 9)
- 745 or 945 (353E) Peripheral Vascular Diseases** (1 q h cr per q—total 3)
- 746 or 946 (354) Infectious Diseases, Chemotherapy and Antibiotics** (3 q h cr per q—total 9) Davis, Staff
- 747 or 947 (355) Advanced Allergy** (1 q h cr per q—total 4) Kass
- 748 or 948 (356) Advanced Hematology** (Pathology 865) (Anatomy 908) (2-3 q h cr per q—total 6) Rigby, Staff
- 750 or 950 (357) Cardiovascular Seminar** (1 q h cr per q)
Prereq: IM 705
- 752 or 952 (358) Medical Seminar** (1 q h cr per q)
Prereq: IM 705
- 760 (348) Off-Campus Elective** (4 or 8 weeks)
Clerkships in University or teaching hospitals elsewhere. By individual approval only.
- 762 Outpatient Preceptorship**
Any student may elect service with a practicing internist associated with this department's faculty. This experience is explicitly directed toward outpatient-based primary patient care as distinct from 715 (which is to be primary inpatient care). The patient problems managed must represent a general spectrum and not a subspecialty practice. This option is offered in any region of Nebraska.
- 772 (347A) Internal Medicine Core Residency** Staff
The first two years of the program emphasize internal medicine in its broadest sense, that is, general or undifferentiated medicine; learning the management of patients without a previously defined disease state or subspecialty orientation. The clinical applications of both pre-clinical sciences and of the other clinical sciences and the

scientific approach are stressed. Specific assignments include inpatient internal medicine at the University of Nebraska Medical Center, at the Omaha Veterans Administration Hospital, at Douglas County, and at affiliated hospitals. Ambulatory medicine, in the clinics of the University of Nebraska Medical Center, receives special emphasis. During the first year, each House Officer learns about emergency internal medicine.

774 (347B) Internal Medicine Advanced Residency Staff

During the third and fourth years of the program the student may take one of two general tracks. He may continue with the general education in internal medicine, becoming more sophisticated as his experience and learning permits. Or he may elect to develop his education in one of several subspecialties recognized by the American Board of Internal Medicine. There are specialized education programs in the Divisions of General Internal Medicine, Diabetes, Endocrinology and Metabolism, Digestive Diseases and Nutrition, Hematology, Cardiovascular Disease, Renology, Pulmonology.

776 (347C) Chief and Associate Chief Residents in Internal Medicine

These are full-time positions, with intense clinical responsibility being assumed under direct faculty supervision.

799 (349) Research in Medicine

Should consider applying for research fellowship several months in advance.

899 (398) Master's Thesis (9-15 q h cr)

999 (399) Doctoral Dissertation (cr arr)

Medical Bibliography

Librarian Hetzner and Staff.

Lectures and conferences are held to acquaint the student with resources in medical literature and bibliographic methods in medical research.

Students are given instruction regarding the use of reference and indexing tools and receive practical experience in the application of literature-searching technics. Advanced students may receive instruction and arrange conferences on the bibliography of science and the problems involved in thesis writing.

Medical and Educational Administration

Kugel (Chairman), Boller, Chapple, Cordes, Crabill, DuBois, Edwards, Fleischli, Helm, M. Johnson, Klintberg, Kraul, Liebenritt, Marcy, Moutrie, Newman, Potthoff (Emeritus), Shearer, Speers, Thompson.

These courses aim to give the students basic orientation and preparation related to physicians' increasingly important responsibilities in preventing disease, promoting efficiency, acting as health counselors and serving as community leaders in health matters.

602 (320) Ecology of Disease (2 hrs weekly, W)

Fundamentals of epidemiology as applied to the infectious and non-infectious diseases.

604 (321) Ecology of Health Care (1 hr weekly, W)

Introduction to statistical analysis; community health, occupational and environmental health; economics of health care.

760 (348) Off-Campus Elective

Clerkships in University or teaching hospitals elsewhere. By individual approval only.

802 (203) Medical Aspects of the Disabled in Rehabilitation (3 cr) W. R. Hill

Prereq: General Prereq and permission of instructor

A study of rehabilitation: the etiology, physiology, mental and medical aspects of disabilities; techniques of evaluation, methods of therapy and resources available for the disabled.

850 Health Information Methodology Seminar (1 q h cr) Fleischli, Staff

Prereq: Basic understanding of biostatistics and/or computer programming

Enrollment by permission

Seminar content will alternate among biostatistics, medical computer programming and health information handling, one of these being stressed during each quarter depending on the interest of students during that quarter.

902 (330) Principles of Biomedical Computing (3 q h cr) Fleischli, Staff

An introduction to use of analog and digital computers in medicine with emphasis on the variety of potential applications. Enrollment by permission.

960 Non-Thesis Research (1 q h cr) Fleischli, Staff

Enrollment by permission. Limit 3 per quarter.

Medical Jurisprudence

Associate Professors Ellick (Chairman), Spire; Instructor J. Langdon.

The course in medical jurisprudence has for its purpose the presentation of medico-legal relationships in order that the student may be familiar with that increasingly pertinent phase of professional life and practice. This course is a comprehensive survey of the medico-legal field and a detailed analysis and study of that science which applies the principles and practice of medicine to the elucidation and settlement of legal questions which arise in everyday professional practice as well as in courts of law.

MEDICAL JURISPRUDENCE—28

702 (340) Medical Jurisprudence (F)

Medical legislation, medical evidence and witnesses, privileged communications, general medico-legal relations, physicians' contracts and compensation, income taxes, malpractice, workmen's compensation law, sterilization and liability of hospitals and nurses are some of the subjects discussed.

Medical Microbiology

Professors McFadden (Chairman), N. G. Miller (Vice-chairman), von Riesen; Associate Professors Conrad, Dye, J. W. Jones, McCarthy, Tremaine, White; Research Associate Professor Chaudhuri; Assistant Professors Al-Moslih, D. Harvey, Phares, Severin; Instructor Yam; Assistant Instructors Dover, Gadberry.

It is the goal of the faculty of this department to develop with the student a balanced concept of medical microbiology and infectious disease. Endeavor is made to demonstrate the principles of pathogenesis, host parasite relationships, and molecular biology as these affect the field of medical microbiology. As specific goals we consider with the student the effects upon the human host of microbial agents and suggest the manner in which a microbiological diagnosis may be made. This is accomplished by lectures and laboratories which emphasize such host parasite relationships, pathogenesis, and principles of infectious disease. Immunity and associated phenomena are discussed.

Medical Microbiology 520 and 521 aim to acquaint students with the basic principles of microbiology, particularly as these relate to infection and disease. The instruction offered in these courses is supplemented with more advanced and specialized courses (620 to 692) for students who are candidates for the M.S. or Ph.D. degree and for other students such as honors students, residents in specialty training, and others desiring advanced work in medical microbiology independently of the requirements for a degree. For more details concerning the program in graduate education, please see the Bulletin of Graduate Studies of the University of Nebraska.

520 or 820 (320) Medical Microbiology I (6 q h cr) McFadden, Staff

Courses MM 520 and 521 comprise, when taken in sequence, a composite course in medical microbiology over two academic quarters. MM 520 is a lecture, conference, and laboratory demonstration course dealing with basic principles of bacteriology and immunology and with the cultural characteristics, pathogenic properties, immunological responses, host-parasite relationships, etc., of certain pathogenic bacteria.

521 or 821 (320) Medical Microbiology II (6 q h cr) McFadden, Staff

MM 521 is a lecture, conference, and laboratory demonstration course dealing with the cultural characteristics, pathogenic properties, immunological responses, host-parasite relationships, etc. of certain pathogenic fungi and viruses. This course also considers the basic principles of virology. In addition this course provides a consideration of clinical parasitology and deals with protozoa, helminths, and arthropods of medical importance.

620 or 920 (350) Physiology of Microorganisms (4 q h cr) von Riesen

Lect 2 lab 4. Prereq: A laboratory course in bacteriology and a course in organic chemistry

A consideration of the chemical composition, structure, growth, and nutrition of microorganisms; the influence of physical and chemical agents; and variation, adaption, and mutation.

622 or 922 (352) Metabolism of Microorganisms (4 q h cr) von Riesen

Lect 2 lab 4. Prereq: MM 620 and a course in biochemistry, or by special permission
A study of microbial enzymes; the metabolism of carbohydrates, proteins, and other substances by microorganisms; and virulence as a physiologic and metabolic problem.

624 or 924 (354) Principles of Immunology (4 q h cr) Tremaine

Lect 2 lab 4. Prereq: MM 520 and 521 or by special permission

Detailed study of the nature of antigens, antibodies, and their interactions. Laboratory

work includes preparation of antisera, quantitative immuno-chemical methods, principles of serological tests, and study of in vivo allergic reactions.

626 or 926 (356) Medical Bacteriology I (4 q h cr) Miller, Staff

Lect 2 lab 4. Prereq: An introductory course in bacteriology with a laboratory and MM 520 or its equivalent

A detailed study of the morphologic, cultural, antigenic, and pathogenic characteristics of certain disease-producing bacteria including techniques of isolation and identification. This course is continued as MM 627 and is normally taken over two consecutive quarters.

627 or 927 (356) Medical Bacteriology II (4 q h cr) Dye, Staff

Lect 2 lab 4. Prereq: An introductory course in bacteriology with a laboratory and MM 520 or its equivalent

A detailed study of the morphologic, cultural, antigenic, and pathogenic characteristics of certain disease-producing bacteria including techniques of isolation and identification. Although different bacteria are considered, this course is a continuation of MM 626 and is normally taken following MM 626.

628 or 928 (358) Systematic Microbiology (3 q h cr) Tremaine, White, Staff

Lect 3. Prereq: MM 520 and 521 or by special permission

Study of the systematic relationships of microorganisms. Classification methods, nomenclature and relationships among bacteria, yeasts, molds, viruses, rickettsias, and protozoa are explored.

630 or 930 (360) Medical Mycology (4 q h cr) Miller

Lect 2 lab 4. Prereq: MM 521 or by permission of the instructor

A study of the actinomycetes and fungi with particular emphasis on those capable of producing infection.

632 or 932 (362) Biology of Animal Viruses (4 q h cr) Dubes, White

Lect 2 lab 4. Prereq: A course in general microbiology including laboratory or by special permission

A detailed consideration of the physical and chemical characteristics, replication and aspects of the host-parasite relationship of animal viruses using those of medical importance as models.

633 or 933 (362) Medical Virology (4 q h cr) White

Lect 2 lab 4. Prereq: MM 632 or its equivalent, or by special permission

A detailed presentation of the animal viruses including the characteristics of each group and of the diseases they produce in man.

634 or 934 (364). Medical Parasitology and Tropical Medicine (4 q h cr) McFadden, Phares, Smith

Lect 2 lab 4. Prereq: MM 521 or by special permission

A detailed study of protozoan and helminthic agents of disease including consideration of morphology, biology, life cycles, and host-parasite relationships.

636 or 936 (366) Microbial Genetics (4 q h cr) Dubes

Lect 2 lab 4. Prereq: Introductory courses in microbiology, genetics, and biochemistry; or by permission of the instructor

Studies of mutation, genetic recombination, gene action, the genetic code, sex, mating, transformation, transduction, conjugation, sexduction, conversion, lysogeny, chromosome structure, and the regulation of genetic expression in bacteria, fungi, and viruses.

640 or 940 (370) Diagnostic Bacteriology (3-9 q h cr) McFadden, Staff

By arrangement. Prereq: MM 520 and 521, or by special permission

Special techniques for isolation, identification, and susceptibility testing of microorganisms from clinical material available in the diagnostic laboratories of the University of Nebraska Medical Center. Practical approach with conference and laboratory.

641 or 941 (370) Diagnostic Serology (3-9 q h cr) McFadden, Staff

By arrangement. Prereq: MM 520 and 521 or by special permission

A study of specific serological procedures and their interpretation based upon clinical material available in the diagnostic laboratories of the University of Nebraska Medical Center. Practical approach with conference and laboratory.

642 or 942 (370) Diagnostic Virology (3-9 q h cr) White, Staff

By arrangement. Prereq: MM 520 and 521 or the equivalent or by special permission

A study of specific techniques for the isolation and identification of viruses from clinical material available in the diagnostic virology laboratory of the University of Nebraska Medical Center. Practical approach with conference and laboratory.

643 or 943 (372) Microbiology of Foods and Water (4 q h cr) von Riesen, Staff

Lect 2 lab 4. Prereq: MM 520 and 521 or equivalent, or by special permission

A study of the microorganisms found in and on natural, fermented, and prepared foods and in water and sewage; spoilage microorganisms; preservation of foods; standard methods for the analysis of foods and water; and the role of foods and water in the transmission of disease agents.

644 or 944 (374) Diseases of Animals Transmissible to Man (3 q h cr) Miller, Staff

Lect 3. Prereq: MM 520 and 521 or its equivalent

A study of the epidemiological factors necessary for the transmission of various microbial diseases of animals to man including a discussion of the infecting agents, their vectors if any, their reservoirs and their interrelationships.

646 or 946 (380) Pathogenesis of Infectious Diseases (3 q h cr) McFadden

Lect 3. Prereq: MM 520 and 521

Every pathogenic organism has its own unique biological and biochemical qualities which make possible invasion, multiplication, infection, and disease within the host. This course is concerned with these host-parasite relationships.

650 or 950 (380) Antiseptics, Disinfectants, and Chemotherapeutic Agents (4 q h cr)

McFadden, Tremaine, von Riesen

Lect 2 lab 4. Prereq: MM 520, 521, and 620 or equivalent, or by special permission

Theoretical and practical aspects of the influence of physical and chemical agents on microorganisms.

660 (348) Off-Campus Elective (cr arr) McFadden

By permission

670 or 970 (396) Seminar (1 q h cr) Staff

By permission

692 or 992 (382) Advanced Topics in Microbiology (cr arr) Staff

By permission

Advanced study (research other than thesis) in one of the several disciplines of medical microbiology such as bacteriology, immunology, mycology, virology, parasitology, tissue culture, electron microscopy, transplantation immunology, microbial genetics, etc.

899 (398) Master's Thesis (cr arr)

Medical Social Work

MEDICAL SOCIAL WORK—34

720 (346) Medical Social Work Elective

Periods offered: Each 4 weeks

Student Limit: 2

To promote growing awareness of social and cultural aspects as they influence the individual's response to illness. In this clerkship, the student will conduct interviews, identify social problems, marshal community social resources, and direct efforts toward solution of problems. The capabilities and limitations of the social system in relation to illness will be encountered and demonstrated during this clerkship.

Neurology

Professors Friedlander (Chairman), Aita, Baker, Ellingson, Wigton; Associate Professors Dutch, Gysin (Emeritus), Muehlig, Sadjadpour; Assistant Professors Danneel, Decker, Gill, Lorenzo, Tae-Yo O, Pellegrino; Instructor Goldner.

NEUROLOGY—36

602 (321) Structure and Function of the Nervous System and Their Relation to Neurological Disease (1 hr weekly, total 12 hrs)

A review of neuronatomy and neurophysiology with emphasis on the implications of these fields in the clinical neurosciences. This course is meant to be a bridge between basic neuroanatomy and neurophysiology and the course in clinical neuroscience.

705 (334) Junior Clinical Neuroscience Clerkship

Periods Offered: Each 4 weeks

Student Limit: 12

Requirement may be fulfilled during quarters 7-12. Students assigned to combined Neurology and Neurosurgical Clinical Service where evaluation, diagnosis, and management approaches are experienced under close faculty supervision.

732 (346A) Clinical Neurology Clerkship

Periods Offered: Each 4 weeks

Student Limitations: By arrangement

Prereq: Neurology 705

Elective offers an extension of experience in clinical neurology obtained in 705 course.

Focus is flexible to serve student's interest in clinical neurology, electroencephalography and/or neuropathology.

734 (346B) Clinical Pediatric Neurology Clerkship

Periods Offered: Each 4 weeks

Student Limitations: By arrangement

Prereq: Neurology 705

Elective offers an extension of experience in clinical pediatric neurology obtained in 705 course.

738 (346D) Neurosurgery Clerkship (each 4 weeks)

Elective clerkship in neurosurgery supplementing the required neuroscience clerkship. (Identical with Surgery 738.)

760 (348) Off-Campus Elective

Clerkships in University or teaching hospitals elsewhere. By individual approval only.

772 (347A) Junior Residency in Neurology

This is a one-year course designed to give clinical experience in neurology. The student will be assigned patient responsibility under the direct supervision of the faculty in the diagnosis and management of patients at the University Hospital and the Veterans Administration Hospital in both inpatient and ambulatory services. The student will also participate in formal courses in neuro-anatomy-neurophysiology.

774 (347B) Intermediate Residency in Neurology

The student will spend three months in each of the following studies: pediatric neurology; EEG-EMG- neuroradiology; neuropathology; and an elective in some field related to neurology (e.g., psychiatric physical medicine and rehabilitation, etc.). Usually 772 (347A) or its equivalent will be a prerequisite.

776 (347C) Senior Residency in Neurology

The student will spend six months conducting a research project in a field related to neurology. The other six months he will have the full clinical responsibility of the teaching services in neurology under the supervision of the faculty. 772 and 774 or their equivalent are prerequisites.

Obstetrics and Gynecology

Professors Messer (Chairman), J. Scott (Vice-Chairman), Redgwick (Emeritus); Research Professor W. Ryan; Associate Professors Cotton, Garlinghouse, Olson, Rumbolz; Research Associate Professor Barker; Assistant Professors Bohi, Dietrich, Elston, Field, Gorthey, H. Harvey, Jernstrom, P. Johnson, Magid, McGinnis, Orr, Roffman, Schack, Sundell, W. Taylor; Associate Boelter; Instructors Alperin, Beavers, Beckenhauer, Garner, George, H. Hansen, Heidrick, Hirst, K. Lewis, Nelson, B. Taylor, Yost; Senior Consultants H. Anderson, Luikhart, McGoogan, Morgan.

The objectives of this department are the integration of reproductive physiology, biochemistry, and anatomy with the normal and abnormal problems of obstetrics and female reproductive tract. Lectures and small group seminars carry this integration through the three years of medical school. Obstetric cases are assigned under direction to the junior year medical class, and extensive practical experience is provided through assignment to the outpatient prenatal and gynecology clinics and to affiliated hospitals.

Undergraduate students are encouraged to participate in research projects, and those with particular interests are given direction and support. A wide variety of advanced courses is available, and students are urged to select a program to meet their future needs.

OBSTETRICS & GYNECOLOGY—40

620 (320) Introduction to Obstetrics and Gynecology Staff

Anatomy, physiology, and biochemistry of normal human reproduction, and their relation to clinical obstetrics and gynecology.

640 (322) Introduction to Family Planning and Contraceptive Techniques (limit 1; W) Orr
Prereq: 88-514

Basic familiarization with methods in family planning at UNH clinics and family planning clinics in Omaha under staff supervision. The student will also complete a programmed text in family planning which will be given to him at the beginning of the elective period.

642 (324) Introduction to Clinical Gynecologic Endocrinology (limit 1; W)

Prereq: Biochem 510

An introductory clinical course which is directed at correlating the biochemical basis to disease with endocrine aspects of OB-GYN practice. The student will be requested to complete a programmed text which will be provided to him in gynecologic endocrinology and will attend the Endocrine Clinic and conferences at UNH.

- 644 (326) Advanced Topics in Obstetrics and Gynecology** (limit 1; W) Scott
Prereq: 88-514
In depth investigation into one of the basic clinical areas in obstetrics and gynecology from course in interdepartmental reproductive biology with the goal of development of an audiovisual teaching package in that specific area.
- 646 (328) Basic Principles of Fetal Monitoring** (limit 1; W) Scott, Dietrich
Prereq: 88-514
An introduction into techniques of fetal monitoring, the clinical course of labor and management of the patients in labor utilizing external and internal methods of fetal monitoring.
- 702 (340) Obstetrics and Gynecology** (W)
Sex counseling, family planning, and the relation of complicated obstetrics-gynecology to other medical disciplines.
- 705 (334) Junior Clinical Clerkship** (8 weeks)
Junior students are assigned to the University Hospital and affiliated hospitals for inpatient experience and to the University Hospital clinics for outpatient obstetric and gynecologic clinics. They will follow the progress of patients in labor, assist and perform deliveries, follow the evaluation and management of gynecologic patients, assist at operative procedures, and maintain a complete record until the patient is discharged from the hospital. Outpatient experience will include participation in the following clinics: normal and complicated obstetric, tumor, gynecologic, endocrine-infertility, and family planning. Seminars, conferences, and ward rounds are scheduled regularly.
- 710 (342) Outpatient** (4 or 8 weeks; limit 3) Staff
Obstetric, gynecologic, and specialty clinic experience including family planning. Daily seminars with the faculty to discuss special problem areas in obstetrics and gynecology including endocrinology. Inpatient service by arrangement at affiliated hospitals.
- 720 (344A) Advanced Obstetrics** (4 weeks; limit 3) Staff
- 722 (344B) Advanced Gynecology** (4 weeks; limit 3) Staff
A University Hospital inpatient service at the intern level emphasizing obstetrics and/or gynecology. Daily participation in staff seminars and teaching activities.
- 724 (346) Obstetrics and Gynecology Tutorial** (4 weeks) Bohi, Dietrich, Field, Jernstrom, McGoogan, Messer, Roffman, Rumbolz, Scott, Sundell
Individual students work in a one-to-one relationship with the full-time staff at the University Hospital or a volunteer faculty member at an affiliated hospital. By approval only. Limit 1-2 students per faculty member per year.
- 760 (348) Off-Campus Selectives** (4 weeks) Messer
Clerkships in University or teaching hospitals elsewhere. By individual approval only.
- 772 (347A) Core Residency**
Prereq: Degree of M.D. from an accredited U.S. Medical School. Foreign medical graduates are required to have an E.C.F.M.G. Certificate
This is a two-year program. The resident rotates between clinical obstetric services including inpatient and outpatient and gynecologic services including inpatient and outpatient. These services are in the University Hospital or one of its integrated hospitals. An additional rotation is a period of time devoted to pathology and endocrinology. Attendance at the weekly resident seminars is mandatory.
- 774 (347B) Chief Residency**
The chief resident has a clinical experience of eight months on inpatient and outpatient gynecology and four months on inpatient and outpatient obstetrics. Following completion of the core residency and the chief residency, the Board requirements of the American Board of Obstetrics and Gynecology are fulfilled. All residents participate in staff conferences, journal club, radiology seminars, and grand rounds.
- 796 (349T) Research, Medical Education** Scott
Problems of core curriculum, development of audiovisual aids, and evaluation in undergraduate education.
- 797 (349F) Research, Family Planning** (4 weeks; limit 1) Orr
Problems of family planning, including clinical experience in a variety of settings.
- 798 (349M) Research, Maternal and Infant Care** (4 or 8 weeks; limit 1) Field
Problems of pregnancy and the perinatal period in relation to maternal health care programs.
- 799 (349P) Research, Gynecologic Cancer** (4 or 8 weeks; limit 1) Scott
Problems of diagnosis and treatment of malignant disease of the female reproductive system.

THE FOLLOWING COURSES ARE AVAILABLE TO GRADUATE COLLEGE STUDENTS ONLY:

- 902 (350) Seminars in Human Reproduction** (6 q h cr per q, max 24) Staff
Conferences, demonstrations, and clinical assignments designed to familiarize the student with all phases of obstetrics and gynecology. The application of anatomy, physiology, biochemistry, pathology, and microbiology will be stressed. Diagnosis and management of obstetrics and gynecologic conditions will be emphasized.
- 904 (351) Gynecological Pathology** (3 q h cr per q—max 9) Scott, Tollman
An advanced course in gross and microscopic pathology in the field of obstetrics and gynecology. The student is required to attend two weekly conferences in gynecologic pathology. Clinical work consists of preparation, review, and description of all specimens submitted in this area.
- 906 (352) Pelvic Anatomy** (4 q h cr, Sp) Holyoke
Special dissection and study to cover the basic science aspects of anatomy and embryology as applied to obstetrics and gynecology. This work will consist of special dissection, reading, and histologic study of the generative tract.
- 908 (353) Gynecological Radiology** (1-5 q h cr) Wilson
Readings, demonstrations, clinics, and seminars designed to show the application of radiographic and radio-therapeutic principles and procedures of obstetrics and gynecology. Conducted in conjunction with the Department of Radiology, this course gives experience in radiographic technics, the interpretation of films and the use of X-ray and radium. Independent reports will be required.
- 910 (354) Advanced Course in Gynecological Surgery** (4 q h cr per q—max 8) Scott
Conferences and demonstrations of principles and technic of gynecological surgery. The student will perform surgical procedures under the supervision of the supervisory staff. Special technics such as culdoscopy and gynecography are included.
- 914 (356) Gynecologic Endocrinology** (3-5 q h cr per 4 weeks; 4 weeks) Barker
Prereq: Biochem 924
A course in applied endocrinology with emphasis on the diagnosis and clinical management of patients with endocrine disorders relating to reproductive function.
- 970 (359) Seminar** (Weekly Wednesday seminar, 9:00 a.m., 1 q h cr per q for Graduate College enrollees, F, W, Sp—max 8) Messer, Staff
- 996 (358) Research in Obstetrics and Gynecology Other Than Thesis** (cr arr)
Specific capacities for research in cancer, family planning, and maternal and infant care exist within the department.
- 899 (398) Master's Thesis** (9-15 q h cr)
- 999 (399) Doctoral Dissertation** (cr arr)

Ophthalmology

Professors Records (Chairman), Gifford, Morrison, Judd (Emeritus); Associate Professors Alliband, Eagle, Filkins, Truhlsen; Assistant Professors Latta, Meissner, Vickery; Clinical Assistant Professors Crawford, Statton; Instructors Dinsdale, Faier, Fradkin, Gieger, Griffiths, Nye, Pemberton, Ramsell, Woodford; Senior Consultant Wood.

OPHTHALMOLOGY—44

- 602 (320) Principles of Clinical Ophthalmology**
The many disciplines which make up the broad field of clinical ophthalmology are presented in a concise and encapsulated manner. These include elementary geometric optics, physiologic optics, external disease, disease processes peculiar to the visual system and the ophthalmic manifestations of systemic disease. The goal of this course is to give the student a firm foundation of basic ophthalmic knowledge which will aid in differentiating normal variation from true disease processes. Such basic knowledge and diagnostic skills will compliment and enhance the individual's diagnostic and therapeutic efforts in any area of clinical medicine.
- 720 (346) Clinical Ophthalmology**
Periods Offered: Each 4 weeks (8 weeks by arr with Chairman)
Student Limit: 1
Quarter Hours: 5
The elective in Clinical Ophthalmology will include experience in all areas of general ophthalmological diagnosis and therapy. Within this wide field the following areas will receive particular emphasis: 1) Ophthalmic history taking and its correlation to the general medical history. 2) Functional evaluation of the visual system including determination of areas and distance, visual acuity, the size, shape, and capacity of the visual field, color vision, bivisual potential, and other testing procedures designed

to detect dysfunction of any components of the visual system. 3) Direct examination of the visual system including both applanation and indentation tonometry, the use and limitation of the slit-lamp, direct and indirect ophthalmoscopy. 4) Observation and participation in ocular surgical procedures.

The goal of this program is to lay a firm foundation of basic knowledge and diagnostic skill which will aid the non-ophthalmologist in evaluating disease processes of the eye, adnexa, and visual pathways. Such knowledge will make for more rational and complete patient care as well as understanding the problems of the patients who have ophthalmic disease or ophthalmic manifestations of systemic disease processes.

760 (348) Off-Campus Elective (4 or 8 weeks)

Clerkships in University or teaching hospitals elsewhere. By individual approval only.

772 (347A & B) Residency Program in Ophthalmology

The residency training program in ophthalmology is 36 months in duration. It is fully accredited by the Council on Medical Education of the American Medical Association and fulfills the formal training requirement for certification by the American Board of Ophthalmology. Three appointments are made effective July 1st of each year. Successful applicants are generally notified of their appointment some nine to twelve months prior to the start of formal training.

Facilities: Three hospitals in the Omaha area are utilized for resident training activities: 1) The University of Nebraska Medical Center Hospital is a 296 bed general hospital which functions as the primary teaching facility of this program. 2) The Omaha Veterans Administration Hospital, a 486 bed facility, is an important source of both medical and surgical cases for further in-depth ophthalmic teaching. 3) The Douglas County Hospital with 522 beds provides additional clinical material.

The University of Nebraska Medical Center Ophthalmology Clinic furnishes outpatient care to a wide range of patients. No income restrictions are applied to patients seeking care and services. This brings a complete spectrum of clinical material ranging from totally indigent to full-pay private patients. The Omaha Veterans Administration Hospital maintains an extremely active ophthalmology service which functions both as an outpatient screening facility and an inpatient surgical service. A large volume of cases are seen at this hospital yearly and an unusually high percentage of them undergo major ophthalmic surgical procedures. The Douglas County Hospital has a small outpatient service and an active emergency room. A moderate number of surgical cases are obtained from these sources.

The clinical facilities of both the University of Nebraska Medical Center Hospital and the Veterans Administration Hospital are among the best equipped in the United States. The latest in diagnostic and refraction equipment is available and most surgical procedures are performed utilizing the operating microscope.

The Training Program

First Year: Each new resident is given a short orientation and then is assigned to work under the supervision of a second year resident. As soon as the individual demonstrates a reasonable degree of competence in the management of simple ophthalmic problems he is given his own completely equipped examination room and is assigned random patients from the general eye clinic population. The neophyte resident then undertakes diagnosis and management of these patients under the careful guidance of an attending faculty member. He is encouraged to move as rapidly as possible in developing the skills which are necessary to become a thorough and complete ophthalmic clinician. The best interest of the patient, however, is always the primary concern, and all steps of diagnosis and management are made under careful supervision. As the resident gains more experience and confidence more latitude is given until at the end of the freshman year a high degree of competence has been obtained in management of everyday ocular complaints. This includes the evaluation of patients who will undergo routine ocular surgery as well as both simple and complicated problems in refraction and medical ophthalmology. Much emphasis is placed upon developing the important skill of ophthalmic history taking and performing a meticulous and detailed examination.

Second Year: An important and rewarding part of the training of each second year resident is close supervision of the freshman residents as they become active in the operation of the clinic. The second year resident continues to improve his skills in the diagnosis and management of routine major ophthalmic procedures. Such procedures include enucleations, strabismus surgery, and uncomplicated cataract extractions. During the second year of training the resident is exposed to various disciplines closely

aligned with ophthalmology such as neuro-ophthalmology, ophthalmic pathology, and pediatric ophthalmology.

Third Year: Six months of the senior year in the ophthalmology residency program is spent as Chief Resident at the University Hospital and the remaining six months as Chief Resident at the Omaha Veterans Administration Hospital. At the University Hospital the Chief Resident is directly responsible for the operation of the clinics and the well being of the inpatients on the ophthalmology service. He is also active in supervising the first and second year residents and confirming their diagnoses. The senior resident performs most of the major ophthalmic surgical procedures at both the University and the Veterans Administration Hospitals. The Chief Resident is also responsible for answering all requests for consultations from other services at all major teaching hospitals. During the course of three years of residency a total of 100 to 150 major surgical procedures will be performed.

Orthopedic Surgery

Professor L. Thomas Hood (Chairman); Associate Professors Bach, Burney, Dinsmore, Hamsa, Jr., Minard, Pitner, Scott-Miller, R. D. Smith; Assistant Professors Bush, Jardon, Kettleson, Mitchell, O'Neil, Stone; Instructors Gondring, Horn, Lewallen, Miller, Styner, Webster; Senior Consultant Hamsa, Sr.

Orthopedic surgery deals with the diseases, deformities and injuries of the structures composing the musculo-skeletal system.

ORTHOPEdic SURGERY—48

- 622 (322) **Orthopedic Surgery Elective** (3 months) Year II
- 722 (344A) **Orthopedic Wards and Clinic Elective** (4 weeks) University Hospital
Clinical experience with members of the Orthopedic Staff at the University Hospital.
- 724 (344B) **Orthopedic Wards and Clinic Elective** (4 weeks) Methodist Hospital
Clinical experience with members of the Orthopedic Staff at the Nebraska Methodist Hospital.
- 725 (344C) **Orthopedic Wards and Clinic Elective** (4 weeks) Veterans Administration Hospital
Clinical experience with members of the Orthopedic Staff at the Veterans Administration Hospital.
- 726 (346) **Sports Medicine Elective** (4 weeks) Bach
A brief survey of problems involved in sports medicine, particularly with relation to football.
- 760 (348A) **Orthopedic Preceptorial Clerkship Elective** (4 weeks)
Clinical experience with a member of the Orthopedic Staff at the University Hospital and affiliated hospitals, as well as outpatient, office, and emergency responsibilities.
- 762 (348B) **Off-Campus Orthopedic Surgery Elective** (4 weeks)
Clerkships in University or teaching hospitals elsewhere.
- 772 (347) **Orthopedic Surgery Residency**
This is a clinical program designed to develop competence in the fields of adult orthopedics, children's orthopedics, fractures, and necessary orthopedic surgery techniques. This is a program of gradually increasing responsibility under faculty supervision for both inpatient and outpatient orthopedic problems. The minimum necessary training period in orthopedic surgery is three years. Basic sciences are included as is surgery of the hand.

Otolaryngology and Maxillo-Facial Surgery

Professor Yarrington (Chairman); Associate Professors Carp, Carter, Collins, Gregg, Lovgren, Yonkers; Assistant Professors Barker, Beck, Beddoe, J. Allan Davis, Eldridge, Foote, Grubbs, Maness, Stivers; Clinical Assistant Professor P. Peterson; Senior Consultants Cassidy, John Calvin Davis, Jr., Klabenes.

OTOLARYNGOLOGY AND MAXILLO-FACIAL SURGERY—52

Pre-Clinical Activities

A series of lectures are given during the freshman and sophomore years of medical school in correlating the basic sciences with the clinical science of Otorhinolaryngology. These lectures are given in conjunction with courses given in the basic sciences and in conjunction with the course in physical diagnosis during the sophomore year.

- 720 (344) **Otorhinolaryngology Clerkship**
Periods Offered: Each 4 weeks
Student Limit: 3

The student is involved closely with all facets of otorhinolaryngology, gaining a view of the scope of this field. Evaluation of patients, diagnostic considerations and management approaches are emphasized. The student will participate in all the activities of the department, including clinical responsibilities, operations, and formal teaching exercises.

- 760 (348) Off-Campus Elective**
Clerkships in University or teaching hospitals elsewhere. By individual approval only.
- 772 (347) Core Residency in Otorhinolaryngology**
This three year program requires two years of approved surgical residency and graduation from an approved medical school. This is the standard residency program which prepares the resident for examination by the American Board of Otorhinolaryngology. This program is described in the department literature on residency training.
- 799 (349) Fellowship in Otorhinolaryngology**
Periods Offered: Each 8 weeks
Student Limit: By arrangement
Designed to support the research interests of a student in any area related to otorhinolaryngology. Eligibility for, and acceptance to, this program, by arrangement with the Chairman of the Department.
- 902 (350) Fellowship in Otorhinolaryngology (7 q h cr)**
A period of approximately five weeks spent full time in the Department of Otolaryngology and Maxillo-Facial Surgery participating in all the teaching sessions of the Department. During this time a research project will be carried out and a report rendered to the supervising staff.
- 904 (351) Advanced Otorhinolaryngology (2 q h cr per q, max 8)**
A series of weekly conferences including one hour of didactic lecture followed by one hour of symposium, covering during the course of the year the broad field of otorhinolaryngology and its application to the clinical and surgical practice of otorhinolaryngology.
- 906 (352) Advanced Clinical Otorhinolaryngology (3 q h cr per q, max 8)**
A course in clinical otorhinolaryngology utilizing the outpatient clinic where, under supervision of the staff, the graduate student participates in the total care of the outpatients seen.
- 910 (354) Seminar in Medical Audiology and Speech Pathology (1 q h cr per q, max 4)**
Yarrington, Norris
A series of seminars programmed through a period of one year to cover the correlation of audiology and speech pathology with otolaryngology through presentation of illustrative cases, discussions, and review of the appropriate literature.
- 912 (366) Otolaryngologic Pathology (3 q h cr)**
A course covering the field of otolaryngologic pathology through review of surgical specimens, seminar discussions of otolaryngologic pathology and observation of the clinical course of the diseases under discussion.
- 970 (353) Otorhinolaryngology Seminar (2 q h cr per q, max 8)**
- 899 (398) Master's Thesis (9-15 q h cr)**
- 999 (399) Doctoral Dissertation (cr arr)**

Pathology

Professors McWhorter (Chairman), Berton, Larsen, McFadden, Schenken (Emeritus), Shubick, Simons (Assistant Chairman), Tollman, Wilson; Associate Professors Greene, Haven, Jones, Kulesh, Papenfuss, Roffman, Schenken, Severn, Skoog, Tanner, Toth; Assistant Professors Althoff, Anderson, Barta, Fitch, Garcia, Grier, Hicks, Kruger, Kutsch, Larsen, Lohff, Long, Morris, Newland, Padgett, Pennepacker, Scott, Sellakumar, Shapiro, E. Smith, F. Smith, Stastney, Stenback, Tamisiea; Instructors Haven, McIntyre, Muellenberg, Reutia, Stewart; Assistant Instructors Baran, Blease, Buckner, Dover, Francke, Hartmann, Johnson, Lassek, Nielsen, Pohle; Senior Consultants Coleman, Foster.

It is the aim of this Department to acquaint the student with the etiology, the pathologic physiology, and the morphologic changes produced by disease processes in the human body.

PATHOLOGY—56

511 or 811 (311) Cell Basic Pathology (F)

The major emphasis in this course is on cellular and tissue reactions to injury. The etiology and pathogenesis of major disease processes is stressed. There is correlation between other basic sciences and cell pathology where appropriate. Instruction is

by lectures, illustrated demonstrations, and regularly scheduled small group discussion periods. The small group discussions are so designed as to emphasize the case study approach to the understanding of selected major disease processes.

620 or 820 (321A) General Pathology (3 q h graduate cr) McWhorter, Staff

The organ system approach to the study of disease is emphasized in this course. The etiology and pathogenesis of specific morphologic lesions and associated clinical pathology correlates are presented by major disease processes. These are, in turn, studied in the context of each major tissue and/or organ system.

621 or 821 (321B) General Pathology (3 q h graduate cr)

(Continuation of 620 or 820). The case study approach is strongly emphasized. Clinical pathology correlation is regularly introduced through the continuation of the small group discussion periods and integral scheduling with formal clinical pathologic conferences. In addition, correlation with other basic science disciplines is stressed. Joint instruction from members of the Departments of Pathology and Medical Microbiology affords the student a more complete understanding of the etiology and pathogenesis of specific infectious diseases and related significant sequelae.

622 or 822 (322) Clinical Pathology (3 q h graduate cr) Larsen, Staff

Prereq: Permission

A lecture, demonstration, and clinical laboratory course emphasizing the selection and interpretation of laboratory tests used by the physician. Considerable use is made of small group case discussions to achieve this end.

702 (340) Forensic Pathology

A discussion of the aspects of forensic medicine.

720 (346A) Pathologic Anatomy

Student Limit: By arrangement, 1-2 students in each area at one time

The Department of Pathology provides opportunities in pathologic anatomy to study diseases in relation to structural abnormalities. This is largely surgical pathology and autopsy pathology. Students are assigned to specific individual staff members for these periods of time and attend all staff conferences.

722 (346B) Clinical Pathology

Student Limit: By arrangement, 1-2 students in each area at one time

The Department of Pathology provides opportunities in the laboratory diagnostic sections of clinical pathology to study the relationship of disease processes to functional abnormalities. The most significant areas of involvement are clinical chemistry, blood banking, hematology, microbiology, special clinical chemistry. The students are assigned to specific staff in these areas and are involved in correlating the manifestations of disease processes with the objective findings and in the interpretation of clinical pathology material. It is possible for the student to spend part of his four week period in 720 and 722 where the two lend to a correlative study of structural and functional abnormalities.

760 (348) Off-Campus Elective

Clerkships in university or teaching hospitals elsewhere. By individual approval only.

772 (347A) Straight Internship

This graduate training program is in compliance with the requirements of the American Board of Pathology for credit in clinical pathology and anatomic pathology. The intern will spend five months in anatomic pathology consisting of surgical and autopsy pathology and cytology and five months in the various sections of clinical pathology such as hematology, immunohematology, chemistry, etc. There are two months of electives which may be spent with the concurrence of the Director in various other clinical departments or in research.

774 (347B) Pathology Residency

This is a full-time four-year program of assignments in pathologic anatomy and clinical pathology for individuals to complete the requirements of the American Board of Pathology for certification in clinical pathology and pathologic anatomy. The segments are broken into six months rotating periods in clinical pathology and its various components such as hematology, immunohematology, microbiology, clinical chemistry, etc., and in anatomic pathology consisting of surgical pathology, autopsy pathology and cytology. If the individual so desires and it is acceptable to the Director, twelve months of this four-year period of time may be spent in research or other special training.

799 (349) Special Problems and Research (4 weeks)

The student interested in a special problem for which supervision by faculty in Pathology is necessary is encouraged to discuss the opportunity directly with the member of the faculty selected.

- 850 (350) Laboratory Supervision and Administration** (2 q h cr) Larsen
Principles and application of clinical laboratory organization, standard operating procedures, laboratory budgets, supply and equipment purchasing, record keeping, personnel relations, employee interviews, hospital-laboratory relationships will be presented.
- 851 (351) Educational Administration in Medical Technology** (2 q h cr)
An introduction to the duties of the teaching supervisor will be presented, including selection, admission and counseling of students, curriculum planning, lecture preparation, and the construction and grading of examinations. The role of the teaching supervisor in public relations and in-service education will also be emphasized.
- 852 (352) Instrumentation and Quality Control** (3 q h cr)
Presentation of various laboratory instruments, technical differences, principles of operation, calibration and maintenance. Principles of statistics as applied to quality control will be presented as well as technics for insuring accuracy and reproducibility.
- 853 (353) Coagulation and Blood Components** (2 q h cr)
Discussion of the theory of blood coagulation, the clinical tests used to diagnose coagulation disorders and therapy in patients with coagulation diseases. The preparation of various blood fractions to be used therapeutically will be presented.
- 854 (354) Blood Bank Administration** (2 q h cr)
This course is intended to acquaint the technologist with record keeping, blood usage, blood replacement, quality control, sterility testing, and legal responsibility in blood banking.
- 861 (361) Ultrastructural Methods in Pathology** (4-8 q h cr)
Lect 2 lab 4 or arr. Two consecutive quarters
Instruction in techniques for the preparation of human biopsy specimens, experimental animal tissues, bacteria and viruses for electron microscopic examination. The course will include material on the theoretical and practical aspects of the structure and operation of the electron microscope.
- 862 (362) Ultrastructure of Cells and Tissues** (3 q h cr)
Instruction in modern concepts of cell ultrastructure and the association of cells in tissues, with emphasis upon the known correlations between structure and function.
- 863 (363) Ultrastructural Pathology** (3 q h cr)
Prereq: Path 820, 821 and 902
Instruction in the ultrastructural aspects of diseased cells and tissues with emphasis on preparation of the student for interpretation of the literature and for research in this area.
- 865 (365) Advanced Hematology** (Internal Medicine 948, Anatomy 908) (2-3 q h cr per q—total 6) Larsen, Pratt, Rigby, Wilson
- 902 (356) Autopsy Pathology** (8 q h cr) McWhorter, Schenken
Prereq: Path 811
In addition to participation in autopsies, the student will study in detail both gross and microscopic tissue changes, and will correlate these with clinical findings.
- 904 (357A) Pathology of Tumors** (4 q h cr)
Prereq: Path 902
An intense course in oncology with special attention to the morphology, derivation, and course of various tumors.
- 906 (357B) Studies of Bone Tumors** (3 q h cr)
Prereq: Path 904
- 908 (357D) Studies of Tumors of the Nervous System** (3 q h cr)
Prereq: Path 904
- 910 (358) Etiology of Tumors** (1 q h cr)
Prereq: Path 902
This will be a general study of the subject of tumor etiology with special emphasis on the phases represented by the investigative work carried on by the student. In large part this will be carried on by study of the periodical literature.
- 970 (359) Seminar** (1 q h cr) Staff
Prereq: Permission
- 996 (364) Non-Thesis Research** (cr arr)
Prereq: Path 902 and 904
- 899 (398) Master's Thesis** (9-15 q h cr)
- 999 (399) Doctoral Dissertation** (cr arr)

Pediatrics

Professors Van Leeuwen (Chairman), Angle, Crofoot, Eisen, Klok, Kramer, LaCrosse, Mooring, Pearson, Thomas; Associate Professors Al-Rashid, Dutch, Hadley, McIntire, Oberst, Rath, Saslow, Schreiner, Schultz, Simon, Sullivan, Trembath, Tussing, Wiltse, Zahler; Assistant Professors Bausch, Bosley, Calvert, David, Eaton, Ebers, Erickson, Hammer, Kleinberg, Kuehn, Lodge, Miyazaki, Nilsson, Pellegrino, Perry, Stivirns, Struempler, Voge, Wallace; Research Professor Gibbs; Instructors Amato, Fijan, Grant, May, Michejda, Stelmak, Turner, Vogelsberg, Wax, Weideman; Emeriti Bancroft, Chapple.

The aim of this department is to develop in the student an understanding of human growth and development, as well as the diseases characteristic of infancy, childhood, and adolescence. This is done through lectures and demonstrations, small group bedside conferences and seminars, clinical clerkship at the University Hospital and the Childrens Memorial Hospital, and the outpatient service at the University Hospital. Special orientation and training in rehabilitation are given at the C. Louis Meyer Childrens Rehabilitation Institute.

Undergraduate students are encouraged to participate in research on a wide variety of projects, and students who show particular interest in a given problem are afforded guidance and support in their scientific investigations.

PEDIATRICS—60

620 (320) Growth and Development

A series of discussions aimed at developing an understanding of the biological and behavioral growth and development of an individual from birth through adolescence. Examples of common deviations from normal development will be included as well as specific procedures for assessment of maturation.

622 (341) Pediatric Pharmacology

The course consists of prenatal, perinatal, and neonatal pharmacology. The physiological and biochemical changes which influence drug metabolism during these periods will be discussed.

705 (334) Clinical Clerkship

Junior students are assigned to the Jahr Pavilion, the Intensive Care Unit, the Adolescent Ward, and Childrens Memorial Hospital. Students are expected to work up patients admitted to these areas including history, physical examination, routine and special laboratory tests in order to establish a diagnosis and plan an effective therapy. They are encouraged to participate actively in management and are expected to have full knowledge of the cases assigned to them and also to be familiar with patients assigned to other students while they are in the hospital. Students are also expected to attend several conferences and other activities that occur in the department, such as the Pediatric Pathology Conference. They also have several discussions and seminars with different staff members in their subspecialties. In addition students are encouraged to attend certain functions at Childrens Memorial Hospital.

710 (342) General Pediatric Outpatient (student limit 4)

Identical with 715 (344), except in clinic.

715 (344A) General Pediatric Inpatient (University of Nebraska Medical Center)

During the time the student is on the inpatient service, he will work as a junior house officer, with opportunity for medical decisions and responsibility commensurate with his background and ability. Supervision will be by full-time pediatric faculty members.

716 (344B) General Pediatric Inpatient (Childrens Memorial Hospital)

Identical with 715 (344A)

722 (346C) Pediatric Cardiology and Cardiovascular Disease

This elective is intended for students desiring to further their knowledge of congenital heart disease and rheumatic fever. It should be especially useful for those who will practice either pediatrics, general practice, or thoracic surgery. Using the excellent clinical material available, the student will become proficient in auscultation and in the diagnosis and management of infants and children with heart disease. The student should become familiar with pediatric electrocardiography, cardiac catheterization. Some time will be spent in observation of heart surgery and the post-operative management of heart surgery patients. Correlate hemodynamic studies with patient history and observation. Become familiar with specialized techniques: electrocardiography, cardiac catheterization, dye dilution and hydrogen curve analysis, phonocardiography, vectorcardiography, apex cardiography, central venous pressure, cardiopulmonary resuscitation. Improve examination skills, especially in auscultation. Introduction to ongoing research projects. If interested, work on a senior thesis. Study patients through: a) four pediatrics and two adult cardiology clinics, b) medicine and pediatric

cardiography inpatient services if desired by students, Beatrice State Home for study of congenital disease, c) cardiovascular conferences, 2 per week. Learn systematic approach to radiologic diagnosis of heart and vascular disease in plain films, fluoroscopy, and angiographic studies. Gain an understanding of operations for cardiovascular disease, including open heart surgery and post-operative management.

724 (346E) Endocrinology and Metabolism

An individual program, divided among inpatient, outpatient, and laboratory settings, to provide experience in evaluating disturbances in hormonal physiology and growth and inherited disorders of metabolism in childhood.

726 (346H) Pediatric Hematology and Oncology

The student will see patients with hematological diseases in the Jahr Pavilion and Newborn Nursery with the staff hematologist. Also the student will work up all new patients seen in the outpatient Pediatric Hematology Clinic. An average of 8-10 patients are seen every Friday afternoon. Bone marrow sessions and seminars in hematological disease are held on a weekly basis. Opportunity for research work, clinical or laboratory, is available for students spending more than 10 weeks on the service. In addition to hematological disorders, the student will gain experience in tumors in children, chemotherapy, and exchange transfusion.

727 (346M) Human Cytogenetics

To familiarize students with laboratory techniques in human cytogenetics. Course content includes techniques and applications of sex chromatin preparations, short- and long-term tissue cultures, chromosome preparation, and karyotype analysis. Correlations with clinical cases.

728 (346N) Neonatology

The student will serve as the Nursery House Officer under the supervision of the staff neonatologist. This will include clinical responsibility for all newborns, day and night. There are 100-120 deliveries per month, include 20-40 "risk" deliveries.

732 (346T) Pediatric Pulmonary Disease (including allergy and cystic fibrosis)

Pediatric allergy clinic meets two half days a week in which the student under supervision of the staff would evaluate and investigate a new allergy patient with appropriate history, physical, and skin testing procedures. Pediatric chest clinic meeting one half day a week considers all types of pediatric chest disease, but primarily those children who have or have had tuberculosis and need appropriate follow-up care. Cystic fibrosis clinic meets two half days a week and here the physician would be able to examine and follow children in all stages of this chronic and ultimately fatal pulmonary disease. There are opportunities to learn how to perform sweat tests and basic pulmonary function tests. Daily ward rounds would be made with the staff on all those patients in the hospital with pulmonary disease. Selective opportunities within this elective are possible with the possibility of spending additional time in a private allergist's office, spending additional time in the Dermatology Clinic, and learning the procedures involving inhalation therapy and postural drainage.

734 (346U) Nephrology

This elective will center on a clinical research project in pediatric renal disease to be designed by the student and Dr. Angle and usually employing clinical studies carried out in the Pediatric Renal Clinic and Inpatient Service. In addition, the students will function as fellows in pediatric nephrology in the Renal Clinic and Inpatient and Intensive Care Unit.

736 (346X) The Handicapped Child

The student will assist the medical staff in the diagnosis and evaluation of multi-handicapped children. This will include the responsibility of the diagnosis of children presenting at Children's Rehabilitation Institute and the Outpatient Developmental Evaluation Clinic at the University of Nebraska Pediatric Department. Opportunities will be provided for the student to participate in diagnostic evaluation in Interdisciplinary Clinic with other professional staff such as psychologists, speech therapists, audiologists, public health nurses, physical therapists, and occupational therapists. Students will assist in the Newborn Evaluation Clinic. Weekly rounds in nursery for infant evaluation are scheduled and an institution for the retarded visited weekly as consultants. Participation in ongoing family counseling with psychiatric supervision. About four complete evaluations are carried out each week and there are over 700 treatments to children suffering from aspects of cerebral palsy and mental retardation conducted during the month.

760 (348A) General Pediatric Preceptorship*

Pediatricians throughout the State of Nebraska, and particularly those who are members of the Nebraska Pediatric Society, have expressed an intense interest in having

medical students spend four or more weeks with them in their private offices. These physicians have agreed to provide meals and lodging for you if you are not able to live at home during this experience: Dr. Gilbert Schreiner, Dr. John E. Thomas, Dr. Byron Oberst, Dr. Charles Look, Dr. J. R. Ellison, Dr. Kenneth J. Fijan.

764 (348C) Off-Campus University Affiliation

Senior students may request credit for any off-campus program which offers unusual opportunities in clinical or investigative pediatrics. Advanced approval from the department is required.

766 (348D) Off-Campus Non-University

Identical with 764 (348C).

770 (346J) Clinical Genetics

Course contents and areas of study are: (1) An introduction to the field of medical genetics, (2) mitosis and meiosis, (3) human cytogenetics, (4) genes and man, and (5) genetic counseling.

772 (347A) Pediatric Graduate Education

This three-year full-time program involves clinical and research experience in all core aspects of the pediatric specialty which relate to a career in either pediatric practice or general academic and research pediatric pursuits. Correlation of the basic sciences of embryology, biochemistry, physiology, microbiology, ophthalmology and pathology is a structured component of the course. Students will be assigned to the University Hospital, Children's Memorial Hospital, Hattie B. Munroe Pavilion, Children's Rehabilitation Institute and the State Crippled Children's Services.

774 (347B) Pediatric Fellowship Graduate Education

This course is limited to students who have completed at least two years of course 772. In-depth subspecialty pediatric education geared toward practice, academic, and research careers are available in the following:

- | | |
|----------------------------------|-----------------------------------|
| (a) Allergy and Chest | (f) Hematology |
| (b) Cardiology | (g) Multiple Handicapped Children |
| (c) Cystic Fibrosis and Diabetes | (h) Neurology |
| (d) Endocrinology and Metabolism | (i) Newborn Medicine |
| (e) Genetics | (j) Renology |

776 (347C) Pedodontic Resident

This course provides advanced clinical experience in dental care for children from birth to 19 years. Emphasis is placed on supervision of oral development and dental management of healthy children and children with special problems. Training is also provided in general pediatrics and general anesthesia. Seminars provide opportunity for review of relevant literature and for discussion of current trends in therapy.

799 (349B) Fellowship in Cardiovascular Research

This elective is intended to provide assistance and supervision to a student interested in research in cardiology. Funds may be available for support.

912 (356) Human Cytogenetics (6 q h cr)

Lect 1 lab 10. Prereq: Admission to the Medical Science or Genetics Area Programs, a course in plant or animal genetics and permission of instructor

A lecture, laboratory, and conference course involving short- and long-term tissue culture, human chromosome methodology and analysis, human chromosome anomalies and their significance, and autoradiography.

913 Advanced General Pediatrics (4-16 q h cr) Al-Rashid, Angle, Gibbs, Miyazaki, Mooring, Pearson, Pellegrino, Saslow, Van Leeuwen, Wiltse

Prereq: Ped 620 and 705

Course will be made up of not more than 8 quarter hours of each of the following subdivisions:

- A) Neonatology, B) Gastroenterology, C) Cardiology, D) Endocrinology and Metabolism, E) Neurology, F) Allergy and Infectious Disease, G) Pulmonology, H) Renology, I) Hematology, J) Rehabilitation of the Handicapped.

914 (365) Molecular Genetics (5 q h cr)

Prereq: Biochem 810 (310) and a course in general genetics or permission of the instructor

Subject matter will include the molecular basis for genetic continuity, mechanisms of heredity in cells and cell units and the control and regulation of macromolecular synthesis.

*Unlike the other electives in the Pediatrics Department, this is the exception in that you must contact the preceptor on an individual basis to reserve a time for this elective.

- 970 (358) Pediatric Research Seminar** (2 q h cr per q, max 6)
Selected topics of current research or contemplated research with presentation of appropriate patients.
- 997 (359) Research in Pediatrics** (cr arr)
Prereq or parallel: Ped 970 (358)
- 899 (398) Master's Thesis** (9-15 q h cr)
- 999 (399) Doctoral Dissertation** (cr arr)

Pharmacology

Professors Ebadi (Chairman); McIntyre (Emeritus); Associate Professors Gessert, Humoller (Emeritus); Assistant Professors Dalske, Deupree, Hexum, Kirkpatrick, Wolf; Instructors Connor, Gatz; Research Associates Davis, Hendrickson, Lacy.

PHARMACOLOGY—66

620 or 820 (321A) Medical Pharmacology (F) Staff

621 or 821 (321B) Medical Pharmacology (W) Staff

622 or 822 (321C) Medical Pharmacology (Sp) Staff

The three lecture and conference courses listed above (620, 621, and 622, or 820, 821, and 822) together cover all aspects of basic medical pharmacology, including the following: general principles and pharmacokinetics; drug actions on the central, peripheral, and autonomic nervous systems and on cardiovascular, renal, gastrointestinal and metabolic functions; chemotherapy of infectious diseases and neoplasms; toxicology; misuse of drugs.

Each of the following elective courses (in the 600 series) carries 1 q h cr, with a lecture and/or seminar format unless otherwise indicated. The prerequisites for each are Pharmacology 620, 621, and 622 (or their equivalents) or permission of the instructor with concurrent registration in Pharmacology 620, 621, or 622. The number of students is not limited unless indicated.

623 Clinical Pharmacology (F) Staff

The application of basic pharmacological concepts in the rational clinical use of drugs in the prevention, diagnosis, and treatment of human diseases.

628 (341C) Developmental Pharmacology (Sp) Ebadi

Physiological and biochemical changes that influence drug metabolism during the developmental period, prenatal to adolescent period.

629 Drugs and Transport Mechanism (W, Sp) Hexum

The effects of drugs on the transport of ions, neurohumors, and natural metabolites across cell membranes.

630 (341D) Analytical Toxicology (F, W) Hendrickson

Lectures, laboratories, and demonstrations in methods available to the modern toxicologist for determining poisons in blood or other body tissues and fluids.

631 Renal Pharmacology (W, Sp) Wolf

Limited to 10 students per q (discussion group format)

The pharmacology of diuretics—structure-activity relationships, vascular and tubular mechanism of action; renal drug metabolism and the influence of diminished renal function on drug regimens.

632 (341E) Biogenic Amines (W) Ebadi

The role of biogenic amines in health and disease.

633 Chemotherapeutic Drugs (W, Sp) Gessert

Pharmacokinetics, mechanism, and adverse effects of antibiotics and other drugs used against infectious diseases.

634 Pharmacology of General Anesthetics (Sp) Gatz

The pharmacologic and toxic effects of general anesthetics on functions of organs, cells, and subcellular organelles.

635 Advances in Drug Receptors (F) Kirkpatrick

Lectures on the identification, isolation and characterization of drug receptors. Examples to be discussed are receptors for hormones, neurotransmitters, morphine and digitalis. A primary objective of the course is to relate the basic information obtained from receptor studies to improved clinical application of drugs.

636 Advanced Pharmacology of General Anesthetics, Sedatives and Hypnotics (Sp) Deupree

This course will entail a discussion of the current theories of pharmacological effects of anesthetics, sedatives, and hypnotics.

- 637 Advanced Cardiovascular Pharmacology (F) Dalske**
Study of the effects and mechanisms of action of drugs affecting cardiac and circulatory functions in the normal and pathologic state.
- 638 The Pharmacological Basis for Alcohol Intoxication (W) Deupree**
This course will present a detailed discussion of the biochemistry and pharmacology of ethyl alcohol.
- 760 (348) Off-Campus Elective**
Clerkships in University or teaching hospitals elsewhere. By individual approval only.
- 799 (349) Technique in Experimental Pharmacology Staff**
- 970 (357) Seminar (1-2 q h cr per q) Staff**
- 899 (398) Master's Thesis (9-15 q h cr) Staff**
- 999 (399) Doctoral Dissertation (cr arr) Staff**

Physical Medicine and Rehabilitation

Professor R. S. Blanchard (Chairman); Assistant Professors Crouter, Fricke, Frost; Assistant Instructors Breed, Mulhair, Shenoy; Demonstrators Bohnenkamp, Burton; Senior Consultant Vogt.

A foundation in physical medicine and rehabilitation is provided through correlation of basic and other clinical sciences with the problems presented in patients with physical disability, particularly those requiring a comprehensive rehabilitation program for return to successful community living. The faculty participates with other departments in a variety of interdepartmental activities to provide a broad understanding of the contribution this specialty can make in the management of patients with both acute and chronic physical disabilities.

The facilities for clinical instruction are University Hospital and the Rehabilitation Center at Douglas County Hospital. The Rehabilitation Center is organized and designed to provide the physically disabled individual with the opportunity to achieve the skills necessary for restoration to his maximum function and independence. The multi-disciplinary approach to the problems of debilitating disease and/or catastrophic injury is presented to the student through lectures, conferences, and demonstrations conducted at the College of Medicine and at the Rehabilitation Center.

This department includes sections of occupational therapy, physical therapy, rehabilitation nursing, speech therapy, activities of daily living, prosthetics, orthotics, medical social work, clinical psychology and vocational counseling. The utilization of personnel in these various disciplines by the physician in his medical management of the patient's problems is demonstrated. The student is oriented to the equipment used, testing procedures available, prescription writing in physical medicine, and medical direction of the therapeutic activities of allied health professionals. Arrangements for clinical clerkships at both facilities may be made.

PHYSICAL MEDICINE AND REHABILITATION—64

Physiology and Biophysics

Professors Gilmore (Chairman), Bennett (Emeritus), Paustian, Ware; Associate Professors Clark, Gerlings, Lim, Myers; Assistant Professors Haack, Lipscomb, Mann, Moriarty, Ramaley.

Courses 510, 512, and 514 in Medical Physiology and Biophysics and Endocrinology 511 are required for the degree of Doctor of Medicine. These courses provide a widely inclusive study of functional mechanisms within the body. To complement biochemical and morphological studies in other departments, emphasis is placed upon the application of biophysical principles to the understanding and measurement of processes in the body. These medical courses include considerable patho-physiology with illustrative problems from clinical medicine to reinforce the student's understanding of normal function and to prepare him for the application of physiological and biophysical principles to clinical medicine. Courses 510, 511, 512, and 514 do not carry graduate credit toward an M.S. or Ph.D. degree; if graduate credit is desired, the student must register for courses 810, 811, 812 and 814.

Courses in the 600 series are designed as electives carrying credit toward the M.D. They do not carry graduate credit.

Graduate studies leading to the M.S. and Ph.D. in Physiology and Biophysics are primarily designed to train students to become competent research scientists, knowledgeable in the major areas of modern physiology and competent to teach at the medical and graduate student level. Courses 810, 811, 812, and 814 are part of the core program. Courses in the 800 and 900 series carry graduate credit toward advanced degrees, and by special

arrangement with the department, may be taken as electives by medical students, interns, or residents. See the Bulletin of the Graduate College for details concerning advanced degree programs.

PHYSIOLOGY AND BIOPHYSICS—68

510 or 810 (310) Cellular Physiology and Biophysics (3 q h cr) (S) Staff

Lect, lab, dem, conf

General cellular physiology and biophysics; cell membrane electrophysiology; basic mechanisms of membrane transport, excitation, inhibition, conduction, synaptic transmission and contraction.

511 or 811 Endocrinology (4 q h cr) (Sp) Staff

The anatomy, biochemistry, pharmacology and physiology of the endocrine system is taught by faculty from the Departments of Biochemistry, Pharmacology, and Physiology and Biophysics with clinical correlation offered by faculty from several clinical departments.

512 or 812 (311) Neuroanatomy-Neurophysiology (Anatomy 512/812) (7 q h cr) (W) Staff

Lect, lab, dem, conf

An interdepartmental course taught conjointly by staff from the Departments of Anatomy and Physiology and Biophysics. The structure and function of the peripheral, autonomic and central nervous systems, with clinical correlation are presented.

514 or 814 (312) Systems Physiology (6 q h cr) (Sp) Staff

Lect, lab, dem, conf

Function of the respiratory, cardiovascular, renal, gastrointestinal, and reproductive systems.

620 (341A) Principles of the E.C.G. Gerlings, Ware

1 hour lecture-seminar per week (or equivalent; to be arranged)

Development of basic principles of electrophysiology of the heart, volume conduction and vector analysis as a basis for electrocardiography.

622 (341B) Bio-Statistics Lim

1 hour lecture per week

Student limit: None

Basic principles of probability and statistical analysis with emphasis on application in biological investigations.

626 (341D) Renal Patho-Physiology Ware

1 hour lecture-seminar per week (or equivalent; to be arranged)

Student limit: None

Principles of renal physiology discussed in relation to specific clinical problems.

628 (341E) Advanced Respiratory Physiology Lim

Periods offered: Fall quarter

1 hour seminar per week

Student limit: 12

Lecture series on advanced respiratory physiology, the subjects cover gas laws, lung volumes, spirometry, mechanics of breathing, gaseous distribution, blood gas, acid-base balance, pulmonary diffusion, pulmonary perfusion, ventilation-perfusion relationship and clinical application of lung function.

630 Endocrine Patho-Physiology (1 q h cr)

1 hour lecture-seminar per week

Student limit: None

Principles of endocrinology discussed in relation to specific clinical problems.

632 (341G) Medical Neurophysiology Clark, Mann

1 hour lecture-seminar per week (or equivalent; to be arranged)

Student limit: None

Recent advances in neurophysiology (neurone and neuromuscular). Lectures and discussions based on advanced texts and monographs, and recent research literature.

638 (349B) Introduction to Computers in Medicine Clark, Gerlings, Myers

1 hour per week: To be arranged

An introduction to the principles of analogue and digital computers and their application to physiological problems.

690 (349) Research Experience in Physiology

Quarter Hours: By arrangement

Prereq: By arrangement

Student limit: 1-2 per field

These are planned as tutorial relationships to be arranged with a staff member who

will familiarize the student(s) with research techniques and experimental procedures in use. Students may choose problems in the investigator's laboratory. The student will be expected to spend full time for a full quarter or large fraction thereof.

1. **Renal** Gilmore
 2. **Electrophysiology** (All Quarters) Ware
 3. **Techniques in Neurophysiology** Clark
 4. **Cardiovascular Physiology** Gerlings, Gilmore, Ware
 5. **Gastrointestinal or Membrane Transport** Moriarty
 6. **Endocrinology** Ramaley
- 806 (352) Application of Mathematical Principles to Physiological Analysis** (1-9 q h cr) Clark, Myers
Prereq: Physiol 810, 812 and 814 or permission
Study of the behavior of physiological mechanisms utilizing first and second order linear differential equations, the Laplace transformation and selected topics from calculus and advanced mathematics.
- 826 (370) Biomedical Instrumentation** (1-5 q h cr; except for those completing a graduate major in Physiology) Haack
Prereq: Physiol 806 or permission of instructor
(Credit will not be allowed in both this course and EE 400)
An introduction to electronic circuits, vacuum tube and transistor amplification. Methods of detecting, recording and measuring biological signals. Instrumentation as a system.
- 902 (350) Special Topics** (1-3 q h cr per q, max 12) Staff
Prereq: Physiol 810, 812, 814 or equivalent
A methodical overview of the fields within Physiology, taken in rotation, to provide the graduate student majoring in Physiology with a general knowledge of the subject at the level of present day research. It is expected that the candidate for the Ph.D. degree will be registered for this course throughout the major part of his graduate study. By special permission, a student may register for part of this course in support of a master's program or a minor in Physiology.
- 904 (351) Technique in Experimental Physiology** (1-9 q h cr) Staff
Prereq: Physiol 810, 812, 814 or equivalent
This course consists of instruction in surgical procedures in mammalia, reptilia, and amphibia and the preparation of organs and tissues in situ and ex situ for experimental study.
- 910 (353) Applications of Physical Principles to Physiological Analysis** (1-9 q h cr) Haack
Prereq: Physiol 810, 812, and 814 or special permission
Physical and electronic principles as used in physiological measurement and analysis.
- 912 (354) Application of Physiology to Clinical Problems** (1-9 q h cr) Paustian, Ware, Gerlings
Prereq: Physiol 904
Electrocardiography, electrostethoscopy, electromyography, electroencephalography, study of neurological lesions by physiological methods, pathophysiology of cardiovascular disease including cardiac failure and shock, application of clearance techniques and other methods of evaluation of renal disease, clinical evaluation of respiratory function, and the application of experimental methods to study the problems of disturbed gastrointestinal motility and secretion.
- 914 (360) Advanced Electrophysiology** (1-9 q h cr) Bennett, Ware
Prereq: Physiol 904
Theory and methods related to the study of electrochemical processes at the cellular level and a correlation of these with specific mechanisms in specialized tissues.
- 916 (361) Advanced Cardiovascular Physiology** (1-9 q h cr) Gerlings, Gilmore, Ware
Prereq: Physiol 904
- 918 (362) Advanced Respiratory Physiology** (1-9 q h cr) Clark, Lim, Ware
Prereq: Physiol 904
- 920 (363) Advanced Renal Physiology** (1-9 q h cr) Gilmore, Ware
Prereq: Physiol 904
- 922 (364) Advanced Gastrointestinal Physiology** (1-9 q h cr) Moriarty, Paustian
Prereq: Physiol 904
- 923 Advanced Neuroanatomy and Neurophysiology** (3-9 q h cr) Clark, Mann
Prereq: Permission of the instructors
An advanced and detailed study of the anatomy and physiology of the human central nervous system.

- 925 (366) Biophysics of Membrane Transport** (2 q h cr) Moriarty
Prereq: Physiol 810 and 814 (calculus through differential equations recommended)
Concepts of the various categories of transport mechanisms and the factors involved in the movement of molecules and ions across biological membranes. Correlation of theory and experimental data with ultrastructure and irreversible thermodynamics relating to single and multiple cell membranes. The principles of compartmental analysis.
- 930 (372) Application of Linear Systems Analysis and Control Theory in Physiology** (1-9 q h cr) Clark, Myers
Prereq: Physiol 906 and 910 or special permission
Systems analysis of physiological mechanisms using transform methods, analysis of physiological control mechanisms and study of stability criteria.
- 932 (373) Analog and Digital Computer Techniques in Physiology** (1-9 q h cr) Clark, Gerlings, Myers
Prereq: Physiol 906 and 910 or special permission
Analog and digital computer solution of physiological mechanisms described by linear and nonlinear differential equations, simulation of physiological mechanisms and use of computers to plan and control laboratory experimentation.
- 970 (377) Seminar** (Non credit) Staff
Prereq: By special arrangement
- 996 (379) Research Other Than Thesis** (1-9 q h cr) Staff
Prereq: By special arrangement
- 899 (398) Master's Thesis** (9-15 q hr cr)
- 999 (399) Doctoral Dissertation** (cr arr)

Psychiatry

Professors Eaton (Chairman), Aita, Burrows, Ellingson, Meier, Menolascino, Roth, Tunakan, Wigton, J. Williams, Wittson (Emeritus); Research Professors Carver, Himwich; Clinical Associate Professor Stein; Associate Professors Bartholow, Dodge, Fine, Gysin (Emeritus), Hook, Osborne, Sonderegger, Starr, Strider; Associate Research Professor Copenhaver; Assistant Professors Bean, Beitenman, Bendorf, Berry, Blöse, Boismier, Branham, Bruns, Davis, Donaldson, L. Eaton, Ettinger, Fix, Goldner, Haffke, Hoefler, Innes, Jessop, Kasdorf, Kaye, Kenney, Kentsmith, LaVoie, Long, LoPresti, Niewoehner, Okura, Patino, Peck, Richardson, Sjogren, Sydow, Volenski, Welch, Wengert, West, Wieland, Wood, Yager; Associates Ingham, R. Jones, Young; Research Associate Reihart (Emeritus); Instructors Benschoter, Boller, Cunningham, Hairston, Hartung, Herrick, Lathrop, Limprecht, Melcher, Michael, Morrow, North, Pettipiece, Riederer, Shaw, Smith, M. Strider, Van Fleet, Wisman; Assistant Instructors Benes, Calkins, Goodloe, Hartmann, Loschen, Steg, B. Williams, Winchester.

Courses are planned to give the student, commencing in his freshman year, correlated, progressive training in the anatomical, physiological, and psychological fundamentals of psychiatry.

Lectures and demonstrations in the freshman year emphasize the significance of personality development in relation to normal and abnormal functioning. The sophomore program consists of lectures and case demonstrations in basic psychiatry which include descriptive and dynamic psychopathology and technics of examination. In the junior and senior years stress is placed on supervised experience with psychiatric patients, on inpatient, day-patient, and outpatient basis. Formal lectures are kept to a minimum. Instruction in psychiatry is correlated with the teaching in other departments.

PSYCHIATRY—70

- 502 (310) Introduction to Psychiatry and the Behavioral Sciences** (3 q h cr S; 3 hrs weekly) Haffke, Strider

This course is designed to give the student, via some understanding of the contributions of both behavioral and biological science, an appreciation of the development of man as a physiological and psychological entity reacting to intrapersonal and interpersonal changes and functioning in health and in illness within the context of family, society, and culture. It focuses on an understanding of the development of behavior in the context of both the normal and the abnormal. Its objective is, while teaching the student some of the uses of basic psychiatric techniques in other branches of medicine, to help to obliterate the "mind-body" dichotomy thus giving the student the ability to deal with the patient as a "whole" person rather than a series of systems. It is organized under the headings: 1) human development, 2) biological and behavioral

factors in human development and function, 3) man in his environment, 4) psychological medicine and its role in modern society.

- 602 (320) Basic Psychiatry** (3 q h cr W; 3 hrs weekly) Davis, West
Descriptive aspects of clinical syndromes are presented. The course is preparatory to the clerkship in psychiatry and gives the student a basic understanding of mental illness from the standpoint of a general practitioner.
- 610 (341A) Alcoholism and Drug Readings** (4 weeks, by arr) Blose
Periods offered: All 4 quarters: 4, 8, or 12 weeks; full or half time
Student limit: By arrangement
Prereq: 1st year
Lectures, demonstrations, seminars, and review of literature concerning alcoholism and drug addiction.
- 616 (341E) Neurochemistry** (4 weeks) Carver
Periods offered: By arrangement
Student limit: By arrangement
Prereq: Biochemistry 510
A basic course in the chemistry of the central nervous system. The material will cover aspects of the subcellular units, metabolic compartments, and the regional distribution of chemical components. Current literature will be reviewed by the student and presented as part of the course.
- 640 (341B) Practicum Training in Clinical Psychology** (4 weeks, by arr) Strider
Periods offered: All 4 quarters: 4, 8, or 12 weeks; full or half time
Student limit: None
Prereq: Recommendation of major advisor and permission of instructor
Clinical experience working with patients under clinical supervision. Open to students other than medical students.
- 644 (346A) Ambulatory Psychiatry** (5 q h cr; 4 weeks or by arr) Kaye
Periods offered: All 4 quarters: 4, 8, or 12 weeks; full or half time (preferably 8 or 12 weeks; full or half time)
Student limit: 2 per 4 week period
Prerequisite: Psychiatry Clerkship
Lectures, seminars, demonstrations in individual and group psychotherapy and psychopharmacology with adult outpatients.
- 646 (346F) Developmental Problems of Children** (5 q h cr; 4 weeks or by arr) Donaldson
Periods offered: All 4 quarters: 4, 8, or 12 weeks; full or half time
Student limit: By arrangement
Prereq: None
Lectures, demonstrations and seminars. Clinical experience working with children, inpatients and outpatients, and their families. Experience with community agencies working with children.
- 705 (334) Clinical Clerkship** (Su, F, W, Sp)
A full-time eight-week required clinical clerkship is to be taken in quarters 7 through 12. Students are assigned to instructors on a tutorial basis and under this detailed supervision are assigned patients on the adolescent service; adult inpatient service; adult outpatient service; alcohol and chemical dependency service; children's service; liaison service, preventive and social psychiatry division; and the Veteran's Administration Hospital psychiatry service. Although assigned to a specific service, a core-curriculum of lectures, seminars, and demonstrations of common psychiatric disorders provides each student with experiences on all services of the Nebraska Psychiatric Institute.
- 721 Individualized Studies in Psychiatry** (5 q h cr; 4 weeks or by arr)
Periods offered: All 4 quarters: 4, 8, or 12 weeks; full or half time
Student limit: By arrangement
Prereq: Psychiatry Clerkship
Demonstrations, seminars, readings and clinical experience in such areas as alcohol and drug problems; community psychiatry; mental retardation; hospital psychiatry (given at NPI and/or VA); and liaison psychiatry.
- 726 (346E) Psychiatric Problems of Adolescents** (5 q h cr; 4 weeks by arr) Haffke
Periods offered: All 4 quarters: 4, 8, or 12 weeks; full or half time
Student limit: 2 per 4 week period
Prereq: Psychiatry clerkship
Lectures, demonstrations, seminars on adolescent problems. Clinical experience working with adolescents and their families and with other community agencies concerned with adolescents.

- 734 (346J) Clinical Practice in Counseling of Sexual and Marital Problems** (5 q h cr; 4 weeks or by arr) Bartholow, Kentsmith
 Periods offered: All 4 quarters: 4, 8, or 12 weeks; full or half time
 Student limit: 4 per 4 week period
 Prerequisite: Psychiatry Clerkship
 Clinical experience in treating individuals with sexual and/or marital problems.
- 750 or 850 (254) Statistical Methods** (4 q h cr) Innes
 Prereq: One semester of college mathematics or its high school equivalent
 Descriptive and inferential uses of statistics in the mental health field. Selected parametric and nonparametric techniques will be included.
- 751 or 851 (302) Developmental Psychology** (2 q h cr per q—total 4)
 Prereq: 6 sem hrs in Psychology or Educational Psychology; open only to qualified students in the fields related to psychiatry and upon approval of the instructor
 A background of knowledge of normal development from birth to old age as a sound basis for understanding maladaptive behaviors. Consideration of cultural, emotional, social, and intellectual factors throughout childhood; adolescent behavior and development; various aspects of adjustment in young adulthood, maturity, and old age.
- 752 or 852 (304) Group Dynamics** (2 q h cr) Garetz
 Prereq: Open only to qualified students in the fields related to psychiatry and upon approval of the instructor
 Introduction to group dynamics; emphasis upon settings in which work with groups is practiced.
- 753 or 853 (350) Psychiatric Concepts** (3 q h cr) Tunakan
 Prereq: Open only to qualified graduate students in an approved master's program
 The historical development of concepts and attitudes of present-day psychiatric philosophy, treatment, and diagnostic classifications is presented. The care and treatment of the psychiatric patient is correlated with dynamics of personality development and symptom formation.
- 754 or 854 (355) Basic Psychodynamics** (2 q h cr per q—total 4) Strider
 Prereq: Graduate standing in fields related to psychiatry and upon approval of the instructor
 A course designed to consider theories of personality development, psychopathology, and abnormal behavior. Psychiatric syndromes are reviewed with emphasis upon psychodynamics as related to symptom formation, contemporary psychotherapeutic methods and prognosis. Recent research findings are discussed. Patient demonstrations are presented to illustrate psychopathology, psychodynamics, and psychiatric syndromes.
- 755 or 855 (366) Introduction to Group Therapy** (2 q h cr per q—max 4)
 Prereq: Graduate standing and permission of the instructor
 Lectures on group therapy. Directed observation and participation as a co-leader in group psychotherapy.
- 756 or 856 (369) Community Psychiatry** (2 q h cr per q) Menolascino
 Prereq: Graduate standing in Psychiatry or related disciplines, or permission of the instructor
 A course in community psychiatry with special emphasis on consultative techniques, mental health education, the function of human management systems and practices within the community, and the primary, secondary and tertiary aspects of mental illness prevention. The course will present material relevant to a wide spectrum of community mental health professions.
- 757 or 857 (370) Psychiatric Literature** (cr arr)
 Reading assignments in special areas; library reading and conferences.
- 758 or 958 (368) Clinical Child Psychology for School Psychologists** (3 q h cr) Strider
 Prereq: Graduate standing and permission of instructor
 An advanced course in child psychology, with emphasis upon diagnostic classification, refinement of approaches and techniques of assessment, and correction of problem behavior in the school-age child. Although primarily designed to meet the needs of practicing school psychologists, information in this course would be of relevance in the field of psychiatry, child psychology, and special education.
- 760 (348) Off-Campus Elective** (5 q h cr; 4 weeks) Burrows
 Periods offered: By arrangement
 Student limit: By arrangement
 Prereq: Clerkship in Psychiatry

- An introduction to the practice of psychiatry or its subspecialties. For training not available locally, may be transcultural elective taken outside the USA.
- 772 (347A) Psychiatry Residency**
This includes clinical work with psychoneurotic and psychotic patients, combined with the study of basic psychiatric sciences, medical and social psychology, psychopathology, psychotherapy, and the physiological and pharmacological therapies, including the basic knowledge, the form, function and pertinent pathology of the nervous system. The training program in general psychology is of three years duration and is supervised by the faculty to develop competency and the utilization of such basic knowledge in dealing with patients.
- 774 (347B) Child Psychiatry**
The prerequisite for child psychiatry is at least two years of general psychiatric residency. The child psychiatry residency program is a two year program, during which the residents remain in the full-time practice of child psychiatry under faculty supervision. During this time competence in the application of the basic psychiatric sciences to inpatient and outpatient psychiatric care of children is required.
- 776 (347C) Internship in Clinical Psychology** Strider
The internship program provides a diversified training experience in which the psychology intern is provided the opportunity to work with a wide range of patients, age groups, and clinical problems. Emphasis is also placed on intensive appraisal and understanding of clinical situations. The intern develops basic competence in diagnostic interviewing, psychodiagnostic evaluation and psychodynamic formulation with both children and adults. Experiences with several psychotherapeutic approaches with both children and adults is arranged with emphasis on careful case formulation as the basis for selection or variation of technique. Attention is given to the development of skills in interprofessional relations and community psychology. Opportunities for consultation with referral sources, including schools, other agencies and clinics, are arranged to provide the intern with experience in consultative situations.
- 798 (349A) Research in Psychiatry** (5 q h cr; 4 weeks) Ellingson
Periods offered: All 4 quarters: 4, 8, or 12 weeks; full-time only
Student limit: By arrangement
Prereq: None
Laboratory or clinical research under direction in selected areas of psychiatry and/or behavioral sciences.
- 802 Medicine and Health Today** (2 s h cr)
Prereq: Adm, Biomed Comm Trng Program; graduate standing
A survey of health science research, training and patient care today presented in seminars and workshops by guest lecturers.
- 804 Biomed Writing, Editing** (3 s h cr) Limprecht, Benson
Prereq: Adm, Biomed Comm Trng Program; graduate standing
An introduction and advanced practice in the use of the printed media for biomedical communications. Course will cover writing, copy editing, picture editing, layout make-up, and editing.
- 805 Biomed Writing, Editing** (3 s h cr) Limprecht, Benson
Prereq: Adm, Biomed Comm Trng Program; graduate standing; 804
Theory and practice of biomedical writing for research publications, grants, scripts, annual reports, etc. Lectures and laboratories with mini-projects in each area.
- 806 Biomed Comm Seminar** (1 s h cr)
Prereq: Adm, Biomed Comm Trng Program; graduate standing
A series of meetings with various experts designed to give students background in areas pertinent to biomedical communication.
- 808 Principles Biomed TV** (2 s h cr) Benschoter
Prereq: Adm, Biomed Comm Trng Program; graduate standing
Surveys hardware and potential uses of CCTV in health sciences education, research, and treatment. Laboratory periods devoted to planning production and utilization of CCTV in its many forms.
- 809 Biomed Comm Practicum** (4 cr per sem, max 8) Benschoter
Prereq: Acceptance in Biomed Comm Trng Program and graduate standing
Students rotate through 9 skill areas receiving 60 hours of training in each and submit a written report of each. Assigned readings. Preparation and presentation of an audio-visual unit.
- 810 Practicus-Fac Design** (2 s h cr) Benschoter
Prereq: Adm, Biomed Comm Trng Program; graduate standing; 804, 805, 808

- Students will plan and design a Biomedical Communications facility, and make written and oral presentations of their projects. Lecture and laboratory sessions will be used.
- 860 Seminar in Psychiatric Vocational Rehabilitation Counseling** (1 q h per q-max 2) Niewoehner
A seminar primarily for practicing vocational rehabilitation counselors designed to provide an overview of techniques and approaches to rehabilitation counseling with the emotionally disturbed. Areas of emphasis are determined each quarter and are based upon the needs and interests of the students.
- 861 (307) Evaluation Techniques in Occupational Therapy** (3 q h cr) Peck
Prereq: Open to qualified students in the fields related to psychiatry and upon approval of the instructor
Varied methods of evaluating psychiatric patients are investigated with reference to performance of activities. Techniques of interviewing, taking histories, methods of observation, and testing in the areas of activity and perceptual motor dysfunction are considered.
- 862 (360) Field Instruction in Psychiatric Occupational Therapy** (8-12 q h cr—total 12) Peck
Prereq: Open only to graduate students in occupational therapy
Supervised participation in clinics, community agencies, and psychiatric conferences and meetings. Patient contact, hospital conferences, and community contacts are provided for practice of skills and techniques discussed in the concurrent lectures of courses 861, 870, and 863.
- 863 (367) Theories in Psychiatric Occupational Therapy** (2 q h cr) Peck
Prereq: Open to qualified students in the fields related to psychiatry and upon approval of the instructor
Current theoretical systems of treatment are studied in relation to treatment planning for psychiatric patients in the occupational therapy clinic. Various points of view are compared as bases for dynamic treatment, including growth and development, learning theory, ego psychology, occupational and recreational development, work therapy, and social functioning.
- 870 (359) Seminar in Psychiatric Activity Therapy** (2 q h cr per q, max 4) Peck
Prereq: Open only to graduate students in occupational therapy in an approved master's program
The first quarter is a study of trends and principles in psychiatric occupational therapy. The role of occupational therapists in various aspects of an interdisciplinary setting is considered in relation to such areas as milieu therapy, community mental health, prevocational evaluation, communication processes, and supervision of staff and students. The second quarter consists of special studies by individual students in changing concepts of occupational therapy services.
- 890 (397) Research Other Than Thesis** (cr arr)
- 899 (398) Master's Thesis** (1-15 q h cr)
- 999 (399) Doctoral Dissertation** (cr arr)

Radiology

Professors Wilson (Chairman), Dettman, Jones, Pederson; Associate Professors Dobry, Harned, James, Quaife, Saichek; Assistant Professors Adkins, Breckbill, Bunting, Dirksen, Farley, G. Johnson, R. Johnson, Mundt, Novak; Lecturer McMillan; Senior Consultant Hunt.

The curriculum in Radiology aims to relate the physical and biological principles of radiation effects to the basic sciences and to the diagnosis, prevention, and treatment of disease.

The principles of radiology presented during the third quarter of the second year relate to radiation physics, radiobiology, principles of radiographic technics and the interpretation of roentgenograms.

During the third year radiologic interpretation is continued by lectures and diagnostic conferences, and the principles of radiotherapy are presented. Sectional teaching to groups of four to eight students is conducted through film reading sessions, group conferences, and tumor clinics.

RADIOLOGY—76

Radiological Anatomy—

Taught as part of Gross Anatomy

- 620 (320) Principles of Radiology** (W, 1 hr weekly, total 12)

720 (346A) Diagnostic Radiology (q h cr arr)

Periods Offered: Each 4 weeks; may be extended to 8 weeks in another Radiology Section

Student Limit: 8 in each section every 4 weeks

Daily sessions in film interpretation, fluoroscopic examination, special radiographic procedures, and correlation of radiographic anatomy, radiographic physiology and radiographic pathology in the evaluation of human diseases are to be carried out in the Department of Radiology. An introduction to radiation therapy and nuclear medicine is included in this elective.

722 (346B) Radiation Therapy

Periods Offered: Each 4 weeks; may be extended to 8 weeks in another Radiology Section

Student Limit: 4 in each section every 4 weeks

The student will be involved in radiotherapy evaluation of patients with cancer and observe the treatment of these patients by various radiation therapy techniques. Radiation therapy case presentation and lectures are planned on a weekly basis.

724 (346C) Nuclear Medicine

Periods Offered: Each 4 weeks; may be extended to 8 weeks in another Radiology Section

Student Limit: 4 in each section every 4 weeks

This elective is directed towards acquainting the student with the field of nuclear medicine. The application of nuclear energy to the diagnosis, treatment, and/or investigation of human disease is surveyed with emphasis on clinical applications. The students receive didactic instruction in the principles and practice of pertinent nuclear physics and instrumentation, participate in case evaluation, procedure selection, radionuclide dose calculation and administration, conduct of the procedure, subsequent evaluation, and analysis of data with interpretation and formulation of consultative report. Follow-up patients with integration of the consultative report into the total patient care is stressed. Pertinent radiation biologic and radiation considerations are related to the conduct of the routine individual interests within the overall framework of the elective.

760 (348) Off-Campus Elective

Clerkships in University or teaching hospitals elsewhere. By individual approval only.

772 (347A) Radiology Residency

This is a three-year program of graduated responsibility, progressing from simple to more complex diagnostic techniques. The second year assignment is in radiation therapy and nuclear medicine. Training in pathology is obtained at the Armed Forces Institute of Pathology.

774 (347B) Diagnostic Radiology

This three-year program is similar to 772 (347A), but responsibility is confined to diagnostic techniques in greater depth than in the combined program.

776 (347C) Radiation Therapy

Also a three-year program, limited to therapy, allowing greater depth of experience and sophistication in therapeutic techniques.

902 (350) Advanced Diagnostic Radiology (4-8 q h cr) Breckbill, Dobry, Harned, Johnson, Pederson, Wilson

Prereq: Radiol 620

Responsible analyses of the status of the various tissues, organs, regions, and systems of the body through correlation of radiographic and fluoroscopic observations with anatomy, physiology, and pathology.

904 (351) Dental and Maxillo-Facial Radiology (3 q h cr) (Dentistry 893, 2 cr) Bruce, Dobry, Jones, Quast, Simon, Smith, Wilson

A lecture and laboratory course which presents techniques and instrumentation suitable for dental and maxillo-facial radiology and reviews interpretation of normal and abnormal radiographic landmarks. The course follows the development of the normal landmarks from childhood to adult form.

906 (352) Advanced Therapeutic Radiology (4-8 q h cr) Dettman, Hunt, Pederson, Waggener

Prereq: Radiol 620, 910, 912

Systematic consideration and responsible application of roentgen rays, radium and radioisotopes in the treatment of benign and malignant disease involving the various organs and regions of the body.

910 (354) Radiological Dosimetry (2-8 q h cr) Jones, McMillan, Waggener

- Prereq: Radiol 620 and consent of department
 Analysis of factors controlling the intensity, quality, distribution, absorption, and effects of radiation in phantoms, barriers, and tissues.
- 912 (355) Radiobiology** (2-8 q h cr) Dettman, Hunt, Quaife
 Prereq: 810, 811; Radiol 620, 910 and consent of department
 Assigned laboratory projects and reading for analysis of basic biological effects of radiation on cells, tissues, and organisms.
- 914 (356) Nuclear Medicine and Biophysics** (2-8 q h cr) Hunt, Jones, Quaife
 Prereq: Radiol 620, 910
 Laboratory assignment in nuclear technology and utilization of radioisotopes in basic medical science and in clinical procedures.
- 970 (353) Seminar** (1 q h cr per q)
- 899 (398) Master's Thesis** (9-15 q h cr)
- 999 (399) Doctoral Dissertation** (cr arr)

Surgery

Professors Hodgson (Chairman), W. C. Davis, Finlayson, German, Musselman, Sellers, Skultety, Steenburg, W. W. Webster; Associate Professors Browne, Brush, Burkland, Coe, J. B. Davis, Ferlic, G. N. Johnson, Kennedy, D. M. Miller, Muehlig, Neis, Potter, Rasmussen, Rees, Singer, Swenson, C. E. Wilson; Assistant Professors Berman, Black, Cochran, Gillespie, J. T. Johnson, Karrer, Kimball, Latenser, Mota, Pester, Porter, Quast, Rath, Sasse, Schultz, J. W. Smith, R. L. Smith, Stephenson, Westfall; Clinical Assistant Professors Cherry, Davies, R. O. Garlinghouse, Gogela, Hilton; Associate L. L. Anderson; Instructors Brett, Bruce, Greene, R. Hamilton, Hanisch, Kutler, Lynch; Clinical Instructors Ehrlich, Hillyer, LeWorthy, Moessner, Wiedman; Assistant Instructors Baden, Bond, Gienger, Harry, Kullbom, Sell; Senior Consultants Bisgard, Keegan, McLaughlin, Morton, Reese; Emeriti Best, Brinkman, H. H. Davis, H. L. Davis, Irons, Waters.

The Department of Surgery includes sections of general surgery, neurosurgery, oral surgery, pediatric surgery, plastic surgery, and cardio-thoracic surgery.

The surgical faculty participates with other departments in interdepartmental exercises during the first two years. The purpose is to correlate the knowledge and precepts of pre-clinical sciences with the problems displayed in patients with surgical diseases.

The Department of Surgery offers courses for students in clinical science quarters. A primary clerkship has been designed to present the principles of recognition, diagnosis, and care of surgical disease. Students are incorporated into the activities of the surgical team. After this clerkship students may add to their breadth and depth of understanding of surgical disease by selecting electives in a variety of special areas in the Department of Surgery or in other surgical areas.

SURGERY—80

705 (334) Primary Clerkship

Students examine and evaluate patients for whom they help care during the course of an illness. They apply and evaluate diagnostic procedures, consider differential diagnosis and observe the consequences of therapeutic decisions. This study is enhanced by conferences, rounds, teaching packages, and demonstrations by the faculty. Essential elements of surgical knowledge and skills have been identified. The students participate in operations, learning principles and technics of operations and are actively involved in care of patients who do not require hospitalization.

ELECTIVES—

In the evolution of surgery, a number of body regions or systems have become the focus for special attention leading to separation of the broad field into special areas. The core of surgery is still the understanding of cell, organ and system function, and response to injury. A student aspiring to a career in any field of medical practice can feel confident that electing any learning experience in which patients are accessible and in which exchange with faculty is possible will contribute to his/her effectiveness as a physician. The Department of Surgery includes several areas of special interest: general surgery, neurosurgery, oral surgery, pediatric surgery, plastic surgery, and cardio-thoracic surgery.

722 (346E) Elective Pediatric Surgery Clerkship (each 4 weeks)

Childrens Memorial Hospital.

724 (346F) Elective Cardio-Thoracic Surgery Clerkship (each 4 weeks)

728 (346B) Elective General Surgery Clerkship (each 4 weeks)

Designed to build on the foundation achieved in the primary clerkship. The student is an active participant in the professional team caring for patients. Students can expect to acquire confidence in identifying problems, organizing a plan of approach, and conducting patients through the preoperative and postoperative periods in conjunction with the faculty at affiliated hospitals.

738 (346D) Elective Neurosurgery Clerkship (each 4 weeks)

Elective clerkship in neurosurgery supplementing the required neuroscience clerkship.

SPECIAL OFF-CAMPUS ELECTIVES—

Special interests or well-developed career goals may lead a student to favor a special course or experience within or away from the Medical Center. In consultation with, and under the auspices of, a member of the faculty special arrangements can be made. Permission for this period will be contingent upon designing a supervised educational opportunity.

760 (348A) Off-Campus Surgery Elective (each 4 weeks)

762 (348C) Off-Campus Neurosurgery Elective (each 4-8 weeks)

RESEARCH ELECTIVES—

Length of approved time to be determined. In general, this type of experience favored for student who has identified a research problem for which capacity and facilities exist to permit a fruitful period of study and effort.

772 (347A) Surgery Residency

This is a five-year clinical program after graduation from medical school during which knowledge, skills, and judgment are acquired in the management of patients with surgical diseases. This is a progressive educational experience with gradually increasing responsibility. Broad interest includes the prevention and cure of disease and the care and rehabilitation of patients. Broad clinical experience includes anesthesia, general surgery, neurosurgery, pediatric surgery, plastic surgery, thoracic surgery, as well as electives to satisfy Board requirements in General Surgery.

776 (347C) Oral Surgery Residency

The advanced educational program in oral surgery comprises four years. Upon satisfactory completion of the integrated biomedical and clinical educational requirements the resident will be eligible for the American Board of Oral Surgery.

Subject to the approval of the Admissions Committee of the College of Medicine a student may enter a program leading to the Doctor of Medicine degree.

Clinical experience is gained in outpatient and inpatient management of oral disease, injuries and/or other abnormalities. Increasing responsibilities are assumed as the educational experience dictates. Additional experience is provided in oral and general pathology, general surgery, general anesthesia, maxillo-facial radiology and research.

790 (349B) Research in Surgery

By arrangement with faculty.

SURGERY, GENERAL EXERCISES—

Surgery Grand Rounds (every Saturday 10:00-11:30 a.m.)

Presentation and analysis of clinical problems. Faculty, house officers, students.

Surgery Seminar (Wednesday 5:30 p.m. July through June)

Presentation and discussion of subjects and articles related to surgery. Faculty, house officers, and students.

GRADUATE COLLEGE COURSES—

800 (350) Advanced Surgery (Dental Oral Surgery 850) (6 q h cr per q, max 24) Hodgson, Musselman, W. C. Davis

Prereq: Permission

Clinical assignments, conferences, and demonstrations applying the principles of surgery to the diagnosis and treatment of disease. Emphasizes the relation of anatomy, biochemistry, pathology, physiology, and microbiology to surgical problems.

870 (368) Seminar (Dental Oral Surgery 968) (1 q h cr per q, max 9) Hodgson, Staff

Prereq: Permission

Seminar discussion of broad aspects of surgery. Forum for development and presentation of original work. Correlation with basic sciences, analysis of research and discussion of interrelations between surgery and genetics, epidemiology, anthropology, economics, humanities, history, and law.

- 890 (369) Research Other Than Thesis** (cr arr) Davis, Hodgson, Musselman, Sellers, Skultety, Staff
- 920 (361) Advanced Gross Anatomy** (Anatomy 920, Dentistry 892) (3-10 q h cr)
Prereq: Anat 810, 811, 812 or equivalent
Studies of general and special gross dissection of the human body.
- 899 (398) Master's Thesis** (9-15 q h cr)
- 999 (399) Doctoral Dissertation** (cr arr)

Urology

Professors Francis Bartone (Chairman), Leroy W. Lee (Vice Chairman); Associate Professors Kammandel, Malashock, Owens (Emeritus); Assistant Professors Lacy, Mardis; Clinical Assistant Professors Gilbert, Gartner, Synhorst; Clinical Instructor Card.

The fundamental principles of this specialty, including the diagnosis and treatment of urinary infections, urologic management of genito-urinary trauma and congenital anomalies, malignancies and intersex problems, are taught so that the general physician will be able to recognize these problems and treat those that are within his scope.

This is accomplished by a continual year-long series of seminars, bedside rounds, outpatient and operating room demonstrations, and combined conferences in genito-urinary radiology, and pathology and pediatric urology.

Aside from the undergraduate teaching, the members of this department provide instruction to interns, residents, and nurses. They also provide urological care to patients in the University Hospital, Veterans Administration Hospital, and Douglas County Hospital. They conduct investigative research in various subjects of urological interest.

UROLOGY—84

Junior Hospital Clerkship (credited under Surgery Clerkship)

Patients of interest are assigned to junior students on the surgery clerkship. Special emphasis is devoted to principles of diagnosis and treatment especially pertinent to urology. Students participate in operations including transurethral surgery, and attempts are made to correlate operative findings with clinical findings, especially with radiologic findings.

Ward Clinics (3 hrs weekly when on Surgery Clerkship)

Students are given bedside ward instruction using patients at the University Hospital and Veterans Administration Hospital, Omaha, to illustrate major urological diseases encountered in medical practice. A one-hour seminar is given weekly where a review of urological problems is discussed in an informal small group.

720 (346) Urology Clerkship (Senior Year)

Designed to augment experience and knowledge gained in the junior year from lectures and clerkship, the student spends a four-week period as a preceptor with one of three groups of urologists. He is exposed to all facets of urology from outpatient diagnostic evaluations to operative procedures.

760 (348) Off-Campus Elective

By special permission with Professor Bartone, arrangements can be made for off-campus electives.

Residency Program

The clinical graduate training program in genito-urinary surgery is designed to meet the current requirements of the American Board of Urology. The aim is to expose the resident to all phases of urology. This is to include urologic diagnosis including endoscopy and retrograde pyelography, pre- and post-operative management and to be assured that he has performed a sufficient number and variety of surgical procedures, including endoscopic operations, to become a competent surgeon.

772 (347A) Urology Core Residency

A full-time two-year program of clinical assignments utilizing the patient material and the faculty working at the Bishop Clarkson, Methodist, Veterans Administration Hospitals and the University of Nebraska Medical Center Hospital. Background in the physiology, radiology, and pathology of the kidney and urinary tract are taught in a series of seminars and conferences in conjunction with the facilities of these respective specialties. Pediatric seminars emphasizing this aspect of urology are taught in conjunction with the Department of Pediatrics.

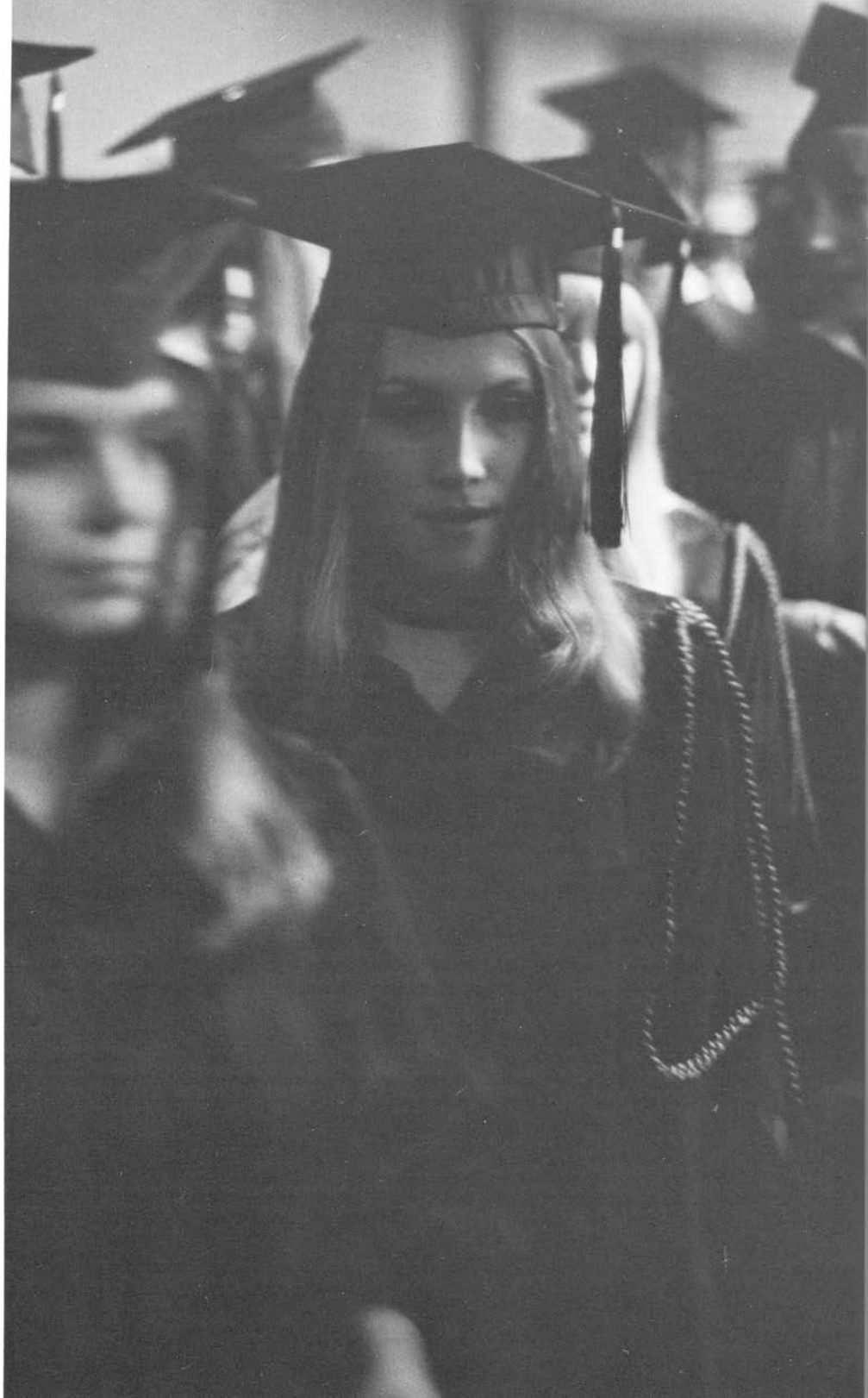
774 (347B) Urology Chief Residency

A year-long full-time clinical program with assignments at the Veterans Administration Hospital, Omaha, and University Hospital. The chief resident is given clinical responsibility for both diagnostic and operative urology under faculty supervision.

799 (349) Research in Urology

Prereq: Special Permission

The student may elect to spend a period with Professors Lacy and/or Bartone in laboratory or clinical research in urology.



BACCALAUREATE PROGRAM IN COMMUNITY HEALTH AND HEALTH EDUCATION

Department of Medical and Educational Administration

The Department of Medical and Educational Administration, through the Division of Community Health of the University Health Center, Lincoln, and Teachers College, Lincoln, offers a four-year undergraduate curriculum leading to the degree of Bachelor of Science in Secondary Education with a teaching endorsement in school health education and community health education. This program provides for a broad basic education coupled with opportunity to gain specific skills, techniques, and philosophy of present-day education and the necessary foundations in the biological and social sciences needed to conduct effective health education programs.

The increasing recognition of education as a technic of preventive medicine and the opportunities available in the formal education process for quality health instruction has led to a large increase in school and community health education programs. The thrust for relevancy in education has increased awareness of the need to provide students at all levels of the education system with knowledge and skills necessary to make intelligent health-related decisions. Current concern for public involvement in health planning makes it even more important that the public be informed in health-related matters. The present-day problems of mental health, drug abuse, accidental deaths, infant and maternal health, air, water, and noise pollution, and the utilization of the medical care delivery system illustrate areas of concern which can be affected by health education programs.

Requirements for the Degree of Bachelor of Science and the Nebraska Teacher's Certificate with the Health Education Endorsement

GENERAL REQUIREMENTS:	Hours
1. English Composition	6
2. Humanities	9
Selections will usually be made from at least two fields. Not less than 6 hours will be chosen from (a) the historical, critical, theoretical courses in Art, Dance, Music, Speech and Dramatic Art, Philosophy, Religion, and Literature (English language or foreign language). The remaining hours may be selected from (b) other courses in Art, Dance, Music, Speech and Dramatic Art.	
3. Physical Education: Military, Naval, or Air Sciences	4
Credit in Physical Education practice courses is limited to one hour per semester except for professional students. Movement fundamentals and swimming are required activities for women.	
4. Social Sciences	9
Selections will usually be made from at least two of the following: Anthropology, Economics, Geography, History, Political Science, Psychology or Sociology.	
5. Science	6
Selections may be made from two of the following laboratory sciences: Biology,	

Botany, Chemistry, Geography 150 and 180 (61 and 62), Geology, Physics, Zoology, Public Health 211 and 212 (11 and 12), and Microbiology.

6. Choice 6
 Selection will be made from one of the following options:
- A. Foreign Language 6
 - B. Science (in addition to area 5) 6
 - C. Mathematics 6
 - D. Humanities (in addition to area 2a) 3
 - Social Sciences (in addition to area 4) 3
7. Elective12-15*
 To be chosen from groups 1, 2, 4, and 6
 *(Note: Option of the adviser)

PROFESSIONAL REQUIREMENTS:

1. Educational Requirements
 History and Philosophy of Education (3 hrs), Educational Psychology (6 hrs),
 Secondary Education (6 hrs), Student Teaching (6-10 hrs).
2. Health Education Requirements (one program of the following three may be chosen)
 - A. School Health Education Option (Grades 7-12)44-45
 Pub Hlth 101 (1), 3 hrs; 170 (70), 3 hrs; 212 (12), 3 hrs; 240 (140), 3 hrs;
 250 (150), 3 hrs; 351 (151), 3 hrs; HumDev 380 (191), 3 hrs; Biol 101 (1),
 4 hrs; Zool 110 (10), 4 hrs; 243 (143), 3 hrs; Microbio 312 (112), 3 hrs; 314
 (114), 1 hr; Chem 113 (15), 114 (16), 116 (18), 9 hrs, or 105 (11), 106 (12), 8 hrs.
 - B. Community Health Education Option 49
 Pub Hlth 101 (1), 3 hrs; 212 (12), 3 hrs; 170 (70), 3 hrs; 240 (140), 3 hrs;
 351 (151), 3 hrs; 321 (121), 3 hrs; 326 (126), 3 hrs; 327 (127), 6 hrs; 401 (201),
 3 hrs; HumDev 380 (191), 3 hrs; Biol 101 (1), 4 hrs; Zool 110 (10), 4 hrs;
 Microbio 312 (112), 3 hrs; 314 (114), 1 hr; Chem 102 (5), 4 hrs.
 - C. Minor
 School Health Education 23
 Pub Hlth 101 (1), 3 hrs; Zool 110 (10), 4 hrs; PubHlth 212 (12), 3 hrs; 170
 (70), 3 hrs; 351 (151), 3 hrs; Biol 101 (1), 4 hrs; Zool 243 (143), 3 hrs.



BACCALAUREATE PROGRAM IN ENVIRONMENTAL HEALTH

The College of Arts and Sciences, Lincoln, in cooperation with the Division of Community Health of the University Health Center, Lincoln, and the Department of Medical and Educational Administration, offers a four-year undergraduate curriculum leading to a Bachelor of Science with a major in Environmental Health and certification as an Environmentalist.

Graduates in Environmental Health are qualified to work in industry, hospitals, institutions and public health agencies performing the many activities of environmental health.

Requirements for the major in Environmental Health:

37 hours; including 25 hours of Public Health courses or advisor-approved substitutions in Sanitary Engineering; three hours in statistics (Math 180, EdPsych 459, Agron 430 or equivalent); and seven hours in biological science courses relating to environmental quality (recommended courses include Micribio 402, Zool 273, Zool 400).

A minor is also required. Minor programs should be constructed with the aid of the advisor. Suggested minors include Chemistry, Physics, Biology, Geography, Sanitary Engineering, Microbiology. Minor programs consist of 18-27 hours including introductory courses.

A summary of the degree requirements is as follows:

	Hours
Public Health or approved substitutions	25
Statistics	3
Biological Sciences	7
Additional work in one of the above three areas	2
Minor course work	18-27
Electives and unfilled group requirements	61-70
TOTAL	125

There are courses in the University, particularly in the areas of Civil Engineering, which may be substituted for major or minor work, depending on the individual student's interests, supporting course work, etc., with the approval of the advisor. Major and minor course work other than Public Health courses may apply toward Arts and Sciences Group Requirements. Approved substitutions in engineering apply toward the 60 hours needed for the B.S.

COURSE OFFERINGS

101 (01) Elements of Health Promotion (3 cr)

The promotion of optimum individual health through intelligent self-direction of health behavior. Stresses utilization of health services; prevention of diseases, emergency care, and accident prevention; nutrition; family planning; drug and chemical use and abuse; mental health; and consumer health education. Not open to students with credit in Public Health 11.

160 (60) Family Health Care (2 cr)

Prereq: PubHlth 212 or permission

This course includes the care of the sick and injured in the home and prenatal and infant health care.

170 (70) Emergency Health Care (3 cr)

The course includes units on concepts, principles, and legal aspects of emergency care, cardio-respiratory emergencies, hemorrhage control, wounds, shock, heat injuries and other medical emergencies. The course also considers the epidemiological factors related to accident causation.

- 212 (12) Principles of Community Health (3 cr)**
Prereq: PubHlth 101, Biol 101
The study of the nature, extent, and causes of basic community health problems and consideration of the elements of public health programs and community structure in the possible solution of these problems.
- 230 (30) Peer Health Education (2 cr)**
A study of the role of the health aide as a health educator in the maintenance and promotion of the health of college students.
- 240 (140) Principles of Environmental Health (3 cr)**
Prereq: PubHlth 101 and 212
This course includes the study of man's physical environment and health problems related to the environment, including water, air, vectors, sewage disposal, solid waste, food handling and other related areas.
- 242 (142) Studies in Environmental Health (2 cr)**
Prereq: PubHlth 240
The course includes studies of some of the major problem areas of community, rural, industrial and institutional environmental health. Emphasis will be given to the study of these problems and field surveys of these particular areas. The role of the environmental health worker and the developing of remedial programs will be discussed.
- 250 (150) Health of the School Child (3 cr)**
This course is concerned with growth, development and maturation of the school child. Consideration is given to the physiological, psychological, and sociological changes. Techniques of inter-professional communication and referral procedures are emphasized as they relate to health problems of the school child.
- 321 (121) Community Health Education Methods and Techniques (3 cr)**
Prereq: PubHlth 212
- 322 (122) Community Health Education Methods and Techniques II (3 cr)**
- 402 (203) Survey of Medical Rehabilitation (3 cr) W. R. Hill**
Prereq: General prereq and permission of instructor
A study of rehabilitation: the etiology, physiology, mental and medical aspects of disabilities; techniques of evaluation, methods of therapy and resources available for the disabled.



ADMINISTRATION

The Board of Regents

Term Expires

J. G. Elliott , Scottsbluff	January 1975
Robert L. Raun , Minden	January 1975
Robert R. Koefoot , M.D., Grand Island	January 1977
James H. Moylan , Omaha	January 1977
Robert J. Prokop , M.D., Ph.D., Wilber	January 1977
Kermit Wagner , Schuyler	January 1977
Kermit Hansen , Omaha	January 1979
Edward Schwartzkopf , Lincoln	January 1979

Ralph H. Bradley, Lincoln, Corporation Secretary

Louise E. Ward, Lincoln, Assistant Corporation Secretary

University-Wide

D. B. Varner, M.S., President

Merk Hobson, Ph.D., Executive Vice President for Academic Affairs

Howard R. Neville, Ph.D., Executive Vice President for Administration

Norman H. Cromwell, Ph.D., Vice President for Graduate Studies and Research

C. R. Boughn, B.S., Administrative Assistant to the President

M. Anne Campbell, Ed.D., Director of Public Affairs

Barbara Coffey, M.A., Special Assistant to the President and Equal Opportunity Coordinator

Vaughn M. Jaenike, Ed.D., Special Assistant to the President for the Arts

Medical Center

Robert D. Sparks, M.D., Chancellor of the University Medical Center

Richard Schripsema, M.H.A., M.B.A., Vice Chancellor and Director of Health Services Administration

Rena E. Boyle, Ph.D., Dean of the College of Nursing

Albert R. Haskell, Ph.D., Dean of the College of Pharmacy

Robert B. Kugel, M.D., Dean of the College of Medicine

Harry W. McFadden, Jr., M.D., Interim Associate Dean for Graduate Studies

Merrill T. Eaton, M.D., Director, Nebraska Psychiatric Institute

Paul H. Pearson, M.D., Director, Meyer Childrens Rehabilitation Institute
Philippe Shubik, B.M.B.Ch., Ph.D., Director of Eugene C. Eppley Institute
Terry Barton, B.A., Director of Medical Center Public Information
Reba Benschoter, M.S., Director, Biomedical Communications
Helen B. Coon, B.A., Registrar
Bernice M. Hetzner, M.A., Librarian

College of Medicine

Robert B. Kugel, M.D., Dean of the College of Medicine
Francis L. Land, M.D., Associate Dean for Clinical Affairs
Perry G. Rigby, M.D., Associate Dean for Academic Affairs
Michael J. Carver, Ph.D., Assistant Dean for Student Affairs
Mary Jo Henn, M.D., Assistant Dean for Student Affairs
Joseph C. Scott, Jr., M.D., Assistant Dean for Graduate Medical Education
Sally A. Chapple, M.S., Assistant to the Dean for Planning
Virgil R. Sewell, Assistant to the Dean for Business Affairs
Kenneth E. Shearer, M.S.W., Assistant to the Dean for Community Affairs
J. P. Tollman, M.D., Acting Director, School of Allied Health Professions

EMERTI FACULTY

Chauncey Leroy Anderson, B.S., M.D., Clinical Associate in Family Practice, Emeritus
Paul M. Bancroft, B.S., M.S., M.D., Clinical Associate Professor of Pediatrics, Emeritus
Clarence F. Bantin, B.S., M.D., Associate in Pediatrics, Emeritus
Meyer Beber, B.S., Ph.D., M.D., Professor of Internal Medicine and Associate Professor of Biochemistry, Emeritus
James Winfred Benjamin, B.A., M.A., Ph.D., Professor of Anatomy, Emeritus
Arthur Lawrence Bennett, A.B., Ph.D., M.D., Professor of Physiology and Biophysics, Emeritus
Rolland Russell Best, B.S., M.D., Professor of Surgery, Emeritus
John Francis Bresnahan, B.S., M.S., M.D., Instructor in Internal Medicine, Emeritus
H. H. Brinkman, B.S., M.D., Clinical Assistant in Surgery, Emeritus
Olin James Cameron, M.S., M.D., Professor of Dermatology, Emeritus
Herbert H. Davis, A.B., M.D., Professor of Surgery, Emeritus
Herbert Leroy Davis, A.B., Ph.D., Research Associate Professor of Biochemistry and Surgery, Emeritus
Frank Lowell Dunn, B.S., M.S., M.D., Professor of Internal Medicine, Emeritus
Horace K. Giffen, B.A., M.D., Assistant Professor of Pathology, Emeritus
Walter Mark Gysin, M.D., Associate Professor of Neurology and Psychiatry, Emeritus
Fred L. Humoller, B.S., Ph.D., Associate Research Professor of Pharmacology, Emeritus
Arthur Letcher Irons, D.D.S., Associate in Surgery, Emeritus
J. Hewitt Judd, B.S., M.D., Professor of Ophthalmology, Emeritus
Esley Joseph Kirk, A.B., M.D., Associate Professor of Internal Medicine, Emeritus
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Charles A. Owens, B.S., M.D., Associate Professor of Urology, Emeritus
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John Rudolph Schenken, B.S., M.D., Professor of Pathology, Emeritus
Chester Hill Waters, Sr., B.S., M.D., Professor of Surgery, Emeritus
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SENIOR CONSULTANTS

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- W. Max Gentry**, A.B., M.D., Clinical Associate in Family Practice, Senior Consultant
William J. Gentry, B.S., M.D., Clinical Associate in Family Practice, Senior Consultant
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- Willis D. Wright**, B.S., M.D., Assistant Professor of Internal Medicine, Senior Consultant

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Justin Alexander, B.S., M.A., Ph.D., Instructor in Physical Therapy
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Jurgen F. Althoff, M.D., Assistant Professor of Pathology
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William Dodge Angle, B.S., M.D., Associate Professor of Internal Medicine
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Robert N. Baker, B.A., M.D., Professor of Neurology, Professor of Pathology
*William H. Bancroft, B.S., M.D., Assistant Instructor in Internal Medicine
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Gloria Dreessen Baran, B.S., Assistant Instructor in Pathology
James E. Bare, B.S., M.D., Clinical Associate in Family Practice
Kenneth Paul Barjenbruch, A.B., M.D., Instructor in Anesthesiology
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John Lucian Barmore, M.D., Associate Professor of Anesthesiology
Lloyd L. Barta, M.D., Assistant Professor of Pathology
George William Bartholow, B.S., M.D., Associate Professor of Psychiatry
Terence R. Barton, B.A., Director of Public Information with rank of Assistant Instructor
Francis Frederick Bartone, A.B., M.D., Professor of Urology (Chairman of Department)
John L. Batty, A.A., M.D., Clinical Associate in Family Practice
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Ronald L. Bendorf, B.S., M.D., Assistant Professor in Psychiatry
Barbara M. Benes, B.A., Assistant Instructor in Educational Therapy, Psychiatry
R. Wayne Bennett, R.T., B.S., Assistant Instructor in Radiology
Reba Ann Benschoter, B.A., M.S., Instructor in Psychiatry
Sandra J. Benson, B.A., Assistant Instructor in Biomedical Communications
Russell Edwin Beran, B.A., M.D., Clinical Associate in Family Practice
Bradley M. Berman, B.A., M.D., Assistant Professor of Surgery
Donald R. Bernier, R.T., Assistant Instructor in Radiology
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*Leave of absence

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William M. Berton, M.D., Professor of Pathology
Albert Seward Black, B.S., M.D., Assistant Professor of Surgery
Russell S. Blanchard, B.A., B.S., M.D., Professor of Physical Medicine and Rehabilitation
 (Interim Chairman of Department)
George W. Blanton, B.S., Instructor, Division of Physical Therapy
Phyllis Ann Blease, B.S., Assistant Instructor in Pathology
Irvin LeRoy Blose, B.S., M.S., M.D., Assistant Professor of Psychiatry
Robert Ernest Bodmer, B.A., M.D., Assistant Professor of Radiology
William Carl Boelter, B.A., M.D., Associate in Obstetrics and Gynecology
Daniel G. Bohi, B.A., M.D., Assistant Professor of Obstetrics and Gynecology
Donald Robert Bohnenkamp, Demonstrator, Physical Medicine and Rehabilitation
James D. Boismier, B.S., M.A., Ph.D., Assistant Professor of Psychiatry
Richard A. Bolamperti, M.D., Assistant Professor of Radiology
Jon Paul Boller, B.S., M.H.A., Instructor in Psychiatry
Arden H. Bonebrake, B.A., M.D., Clinical Associate in Family Practice
Warren G. Bosley, A.B., M.D., Clinical Assistant Professor of Pediatrics
Colleen A. Bowling, B.S., M.A., Assistant Instructor in Audiology and Speech Pathology
Rena E. Boyle, R.N., B.S., M.A., Ph.D., Professor of Nursing (Dean of the College of Nursing)
Warren Quentin Bradley, A.B., M.D., Clinical Instructor in Radiology
Lee Branham, B.A., Ph.D., Assistant Professor of Psychiatry
Russell C. Brauer, A.B., M.D., Assistant Professor of Anesthesiology
John Grierson Brazier, A.B., M.D., Associate Professor of Internal Medicine
David L. Breckbill, B.S., M.D., Assistant Professor of Radiology
Raymond John Breed, B.A., Assistant Instructor in Physical Medicine and Rehabilitation
Charles M. Bressman, A.B., M.D., Assistant Professor of Family Practice
Dale E. Brett, B.A., M.D., Instructor in Surgery
Louisa A. Brokering, B.A., Assistant Instructor in Social Work, Division of Social Work,
 School of Allied Health Professions
Earle W. Brown, B.S., M.P.H., Instructor in Preventive Medicine and Public Health
Kenneth Murle Browne, A.B., M.S., M.D., Associate Professor of Surgery
Karl Wayne Bruce, B.S., M.S., D.D.S., Instructor in Surgery and in Radiology
William C. Bruns, M.D., Assistant Professor of Psychiatry
John Hobart Brush, A.B., M.D., Associate Professor of Surgery
Donald John Bucholz, A.B., B.S., M.A., M.D., Assistant Professor of Internal Medicine
Walter H. Buckner, III, B.S., Assistant Instructor in Medical Technology, Allied Health
Richard Arndt Bunting, B.S., M.D., Assistant Professor of Radiology
Charles Wilhelm Burklund, A.B., B.S., M.D., Associate Professor of Surgery
Dwight Willard Burney, A.B., M.D., Associate Professor of Orthopedic Surgery
William G. Burrows, L.M.C.C., M.D., Professor of Psychiatry (Associate Director Nebraska
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David Samuel Burton, Demonstrator, Physical Medicine and Rehabilitation
Thomas C. Bush, B.S., M.D., Assistant Professor of Orthopedics
John Byron Byrd, B.S., M.D., Clinical Associate in Family Practice
Robert C. Calkins, B.S., M.D., Assistant Instructor in Psychiatry
William G. Callahan, B.S., Ph.D., Assistant Professor of Pediatrics
Thomas Dale Calvert, B.S., M.D., Clinical Assistant Professor of Pediatrics
Dennis J. Card, A.B., M.D., Instructor in Urology
Antonio Jose Cardesa-Garcia, M.D., Assistant Professor of Pathology
James G. Carlson, A.B., M.D., Clinical Associate in Family Practice
James S. Carson, A.B., M.D., Clinical Associate in Family Practice
William S. Carter, B.S., M.D., Associate Professor of Otolaryngology and Maxillo-Facial
 Surgery
Michael Joseph Carver, B.S., M.S., Ph.D., Professor of Biochemistry, Research Professor
 of Psychiatry, Assistant Dean
Ralph Lowell Cassel, A.B., M.D., Clinical Associate in Family Practice
Ercole Cavalieri, D.S., Research Assistant Professor of Biochemistry
Ralph J. Cerny, A.B., M.H.A., Associate Hospital Administrator with rank of Assistant Profes-
 sor
Sally A. Chapple, A.A., B.S., M.S. Assistant to the Dean with rank of Assistant Instructor
Robert C. Chase, M.D., Instructor in Ophthalmology
Sachindra Nath Chaudhuri, M.B.B.S., Ph.D., Research Associate Professor of Internal
 Medicine and of Microbiology
LeGrande Dwight Cherry, B.S., M.D., Clinical Assistant Professor of Surgery
Nanette C. Chiappetta, R.T., Assistant Instructor in Radiologic Technology
Francis J. Clark, B.S., M.S., Ph.D., Associate Professor of Physiology and Biophysics

David B. Clayson, Ph.D., Visiting Professor at Eppley Institute
Robert Morris Cochran, B.S., M.D., Assistant Professor of Anatomy and of Surgery
John Daniel Coe, A.B., M.D., Associate Professor of Surgery
Frank Cole, B.S., M.D., Clinical Associate in Anesthesiology
Francis Carter Coleman, M.D., Clinical Assistant Professor of Pathology
Frederick G. Collins, B.S., M.D., Associate Professor of Otolaryngology and Maxillo-Facial Surgery
Susan Collopy, B.S., Instructor in Division of Physical Therapy
Vicente Franklin Colon, B.A., M.D., Clinical Associate in Family Practice
Ole B. Conn, Assistant Instructor, Eppley Institute
Robert Edward Connor, B.S., Chief Pharmacist, Instructor in Pharmacology
Evelyn E. Conrad, B.S., Assistant Instructor in Biochemistry
Robert Dean Conrad, B.S., D.V.M., Ph.D., Associate Professor of Microbiology (Director, Centralized Experimental Animal Facility)
James E. Cook, B.A., M.D., Instructor in Anesthesiology
George Dale Cooper, B.S., M.D., Clinical Associate in Family Practice
John H. Copenhaver, B.S., Ph.D., Associate Professor of Psychiatry and of Biochemistry
W. Benton Cople, B.S., M.D., Assistant Professor of Radiology
Donald L. Cordes, B.S., M.Ed., Assistant Instructor, Medical and Educational Administration
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Denis Joseph Cuka, B.S., M.D., Associate Professor of Anesthesiology
Marion Rose Cunningham, B.S., Instructor in Psychiatry
Kay S. Currey, B.G.S., Assistant Instructor in Biomedical Communications
Frederick H. Dalske, B.A., Ph.D., Assistant Professor of Pharmacology
Clifford M. Danneel, B.S., M.D., Assistant Professor of Neurology
Corazon Chico David, M.D., Assistant Professor of Pediatrics
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Stanley L. Davis, B.A., M.D., Assistant Professor of Internal Medicine
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Douglass A. Decker, A.B., M.D., Assistant Professor of Neurology
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Louis Gilbert, A.B., M.D., Assistant Professor of Urology
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Robert W. Gillespie, B.S., M.D., Assistant Professor of Surgery
Ray O. Gillies, Jr., B.S., M.D., Associate in Otolaryngology and Maxillo-Facial Surgery
Joseph P. Gilmore, B.S., M.S., Ph.D., Professor of Physiology and Biophysics (Chairman of Department)
Ralph Gingell, B.S., Ph.D., Research Associate in Biochemistry and Instructor, Epley Institute
***Lois M. Givens**, B.S., Medical Record Librarian with rank of Assistant Instructor in the Division of Allied Health
R. David Glover, B.S., M.S., M.D., Clinical Associate in Family Practice
Louis J. Gogela, B.S., M.A., M.D., Clinical Assistant Professor of Surgery
John C. Goldner, B.S., M.S., M.D., Instructor in Neurology
Julius Charles Goldner, B.S., M.D., Assistant Professor of Psychiatry
Dale P. J. Goldsmith, B.S., M.A., M.S., Ph.D., Associate Professor of Biochemistry
William H. Gondring, B.A., M.D., Instructor in Orthopedic Surgery
Jewell Goodloe, B.S., Assistant Instructor in Psychiatry
John Lee Gordon, B.S., M.D., Instructor in Anesthesiology
John Robert Gordon, M.D., Assistant Professor of Internal Medicine
Russell Leroy Gorthey, B.S., M.D., Clinical Assistant Professor of Obstetrics and Gynecology
Leslie I. Grace, Jr., B.S., M.D., Clinical Associate in Family Practice
William Ernest Graham, A.B., M.D., Assistant Professor of Internal Medicine
Carter Grandjean, B.S., M.S., Ph.D., Assistant Professor, Epley Institute
Robert S. Grant, M.D., Clinical Instructor in Pediatrics
Harris B. Graves, A.B., M.D., Clinical Associate in Family Practice
Carolyn Sue Green, A.B., M.A.L.S., Assistant Librarian with rank of Assistant Professor
Leila H. Green, B.S., M.S., Instructor in Division of Physical Therapy

*Leave of absence

Richard K. Green, B.S., M.D., Assistant Professor of Obstetrics and Gynecology
Arthur Morton Greene, B.S., M.S., M.D., Associate Professor of Internal Medicine
Earl George Greene, B.S., M.D., Associate Professor of Pathology
John L. Greene, B.S., M.D., Instructor in Surgery
John B. Gregg, B.A., M.D., Associate Professor of Otolaryngology and Maxillo-Facial Surgery
John Maurice Grier, M.D., Assistant Professor of Pathology
John Dwight Griffiths, Jr., B.S., M.D., Instructor in Ophthalmology
Robert Leslie Grissom, B.S., M.D., Professor of Internal Medicine
Loran C. Grubbs, A.B., M.D., Assistant Professor of Otolaryngology and Maxillo-Facial Surgery
Michael L. Grush, M.D., Clinical Associate in Family Practice
Louena M. Guidera, B.A., M.A., Instructor in Pediatrics
William F. Gust, B.A., M.D., Assistant Instructor in Internal Medicine
Robert Frederick Guthmann, Jr., B.A., M.S., Ph.D., Instructor in Preventive Medicine and Public Health
Dale Bernard Haack, B.S., M.S., Assistant Professor in Physiology and Biophysics and in Internal Medicine
Keay Hachiya, A.B., M.D., Instructor in Anesthesiology
Richard A. Hadley, B.S., M.D., Associate Professor of Pediatrics
Julius Ernest Haes, Jr., B.A., M.P.H., Instructor in Radiology
Ernest A. Haffke, B.S., M.D., Assistant Professor of Psychiatry
John A. Haggstrom, B.A., M.D., Assistant Professor of Radiology
James R. Hairston, A.B., M.S., Instructor in Psychiatry
Gordon C. Ham, B.S., M.D., Assistant Instructor in Obstetrics and Gynecology
Charles Albert Hamilton, B.S., M.S., Ph.D., Associate Professor of Internal Medicine
Robert Frank Hamilton, B.A., M.D., Instructor in Surgery
Richard W. Hammer, B.A., M.D., Assistant Professor of Pediatrics
Donald Lee Hammes, B.S., M.D., Assistant Professor of Internal Medicine
William R. Hamsa, Jr., B.S., M.D., Associate Professor of Orthopedic Surgery
Louis Everett Hanisch, M.D., Instructor in Surgery
Charles Robert Hankins, A.B., M.D., Assistant Professor of Internal Medicine
Richard Curwin Hanna, A.B., Instructor in Division of Physical Therapy
Florence M. Hansen, B.A., M.S.S.A., Instructor in Preventive Medicine and Public Health
Hodson A. Hansen, B.S., M.D., Clinical Instructor in Obstetrics and Gynecology
Ronald C. Hansen, B.S., M.D., Assistant Professor of Pediatrics
Susan M. Hoare Hansen, B.A., M.A., Instructor in Audiology and Speech Pathology
Walter Leon Hard, A.B., Ph.D., Professor of Anatomy (Vice Chairman of Department)
Denham Harman, B.S., Ph.D., M.D., Professor of Biochemistry and of Internal Medicine
Roger K. Harned, B.S. M.D., Associate Professor of Radiology
John L. Hartman, Jr., B.A., M.A., Ph.D., Instructor in Physiology and Biophysics
Alfred E. Hartmann, B.S., M.D., Assistant Instructor in Pathology
Klaus Hartmann, B.S., M.D., Assistant Instructor in Psychiatry
Beverly J. Hartung, B.S., M.S.W., Instructor in Psychiatric Social Work, Psychiatry
Donald A. Harvey, B.A., Ph.D., M.D., Assistant Professor of Microbiology and Instructor in Internal Medicine
Harold Elmer Harvey, A.B., M.D., Assistant Professor of Obstetrics and Gynecology
Walter C. Harvey, Jr., B.A., M.D., Clinical Associate in Family Practice
Albert Russell Haskell, B.S., M.S., Ph.D., Professor of Pharmacy (Dean of the College of Pharmacy)
Guy T. Haven, B.S., M.D., Ph.D., Associate Professor of Pathology and Research Associate Professor of Biochemistry
Mary C. Haven, B.S., M.S., Instructor in Pathology
Orin Robert Hayes, B.S., M.D., Assistant Instructor in Pathology
Frank Owen Hayworth, B.A., M.D., Clinical Associate in Family Practice
Eleanor L. Heaston, Ph. B., M.S.S.W., Instructor in Pediatrics
Diane E. Heestand, B.A., M.A., Ed.S., Instructor in Communications, Division of Physical Therapy
William Paul Heidrick, M.D., Instructor in Obstetrics and Gynecology
Carol J. Helm, B.S., M.S., Instructor in Preventive Medicine and Public Health
Merrill Jesse Hendrickson, B.S., Ph.D., Research Associate in Pharmacology
Mary Josephine Henn, A.B., M.S., M.D., Professor of Internal Medicine and Assistant Dean in charge of Student Affairs
Ralph Kent Hermsmeyer, A.B., M.S., Ph.D., Assistant Professor of Physiology and Biophysics
Howard D. Herrick, B.A., M.D., Instructor in Psychiatry

Bernice Martin Hetzner, B.A.L.S., M.A., Professor of Library Science
William G. Heusel, B.S., M.D., Clinical Associate in Family Practice
Terry Donald Hexum, B.S., Ph.D., Assistant Professor of Pharmacology
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Donald Vincent Hirst, A.B., M.D., Instructor in Obstetrics and Gynecology
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John J. Hoelsing, A.B., M.D., Assistant Professor of Internal Medicine
John Frederick Hofert, B.A., M.S., Ph.D., Associate Professor of Biochemistry
Robert C. Holcombe, A.B., M.D., Assistant Professor of Internal Medicine
Marvin E. Holsclaw, B.S., M.D., Clinical Associate in Family Practice
James W. Holsinger, Jr., B.S., M.D., Ph.D., Assistant Professor of Internal Medicine
Edward Augustus Holyoke, B.S., M.A., M.D., Ph.D., Professor of Anatomy
Leo Thomas Hood, B.S., M.D., Professor of Orthopedic Surgery (Chairman of Department)
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William E. Kroupa, B.S., M.D., Clinical Associate in Family Practice
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Harold J. Kuehn, M.D., Assistant Professor on gpv tics
Robert Benjamin Kugel, A.B., M.A., M.D., Professor of Pediatrics, Dean of the College of Medicine
Morton Howard Kulesh, B.A., M.D., Associate Professor of Pathology
Benton Kutler, B.A., D.D.S., Instructor in Surgery and Assistant Professor of Preventive Medicine and Public Health
Edward L. LaCrosse, B.S., Ed.M., Ed.D., Professor of Pediatrics
Sushil S. Lacy, I.Sc., M.B.B.S., M.S., Assistant Professor of Urology
Francis L. Land, A.B., M.D., Professor of Family Practice (Chairman of Department) and Associate Dean for Clinical Affairs
Dennis Frank Landers, B.S., Ph.D., M.D., Assistant Professor of Anatomy
Edward Langdon, B.S., M.D., Assistant Professor of Internal Medicine
James Kevin Langdon, B.A., J.D., Instructor in Medical Jurisprudence
Robert J. Langenbach, B.A., M.S., Ph.D., Assistant Professor at Eppley Institute
Arden Engstrom Larsen, B.S., M.S., Ph.D., Assistant Professor of Pathology
Arthur Lee Larsen, A.B., M.D., Professor of Pathology
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Donald J. Larson, B.S., M.D., Clinical Associate in Family Practice
Dwight L. Larson, A.B., M.D., Clinical Associate in Family Practice
John Francis Latenser, M.D., Assistant Professor of Surgery
Gerald Hugh Lathrop, B.S., M.A., Instructor in Psychiatry
Charlton Rex Latta, B.S., M.D., Assistant Professor of Ophthalmology
Joseph C. LaVoie, B.S., M.S., Ph.D., Assistant Professor of Medical Psychology, Psychiatry
Kyu Y. Lee, B.A., B.S., M.S., Ph.D., Associate Professor of Biochemistry
Leonard R. Lee, B.S., M.D., Assistant Professor of Internal Medicine
Leroy William Lee, B.S., M.S., M.D., Professor of Urology (Vice Chairman of Department)
Henry J. Lehnhoff, Jr., A.B., B.S., M.D., Professor of Internal Medicine
Robert M. Lehr, B.A., M.A.L.S., Assistant Professor of Library Science
Theodore John Lemke, M.D., Clinical Associate in Family Practice
Henry Martyn Lemon, B.S., M.D., Professor of Internal Medicine, Director, Division of Clinical Oncology
Gene S. Lewallen, B.A., B.S., M.D., Instructor in Orthopedic Surgery
Jack K. Lewis, B.A., M.D., Assistant Professor of Internal Medicine
Kirk Chase Lewis, A.B., M.D., Instructor in Obstetrics and Gynecology
George William LeWorthy, B.A., M.D., Clinical Instructor in Surgery
John Liebentritt, B.Ed., Assistant Instructor in Administrative Medicine, Dean's Office
Thomas P. K. Lim, M.D., M.S., Ph.D., Associate Professor of Physiology and Biophysics and of Internal Medicine
Hollis Limprecht, A.B., Instructor in Biomedical Communications, Psychiatry

Mary L. Lindball, B.S., R.N., R.P.T., Instructor in Physical Therapy
William T. Lipscomb, B.S., Ph.D., Assistant Professor of Physiology and Biophysics
James L. Lodge, A.B., M.D., Clinical Assistant Professor of Pediatrics
James S. Long, M.D., Clinical Associate in Family Practice
Mary Jean Long, B.S., M.S., Ph.D., Assistant Professor of Pathology
Robert Stanley Long, B.S., M.D., Associate Professor of Internal Medicine
William B. Long, B.S., M.D., Assistant Professor of Psychiatry and of Family Practice
George Walter Loomis, A.B., M.D., Associate Professor of Internal Medicine
Robert W. LoPresti, A.B., M.A., Ph.D., Assistant Professor of Medical Psychology, Psychiatry
Agapito S. Lorenzo, A.A., M.D., Assistant Professor of Neurology
Earl L. Loschen, B.S., M.D., Assistant Instructor in Psychiatry
Robert Ellsworth Lovgren, B.S., M.D., Associate Professor of Otolaryngology and Maxillo-Facial Surgery
William E. Lundak, B.A., M.D., Instructor in Radiology
Robert D. Lynch, B.A., M.D., Instructor in Surgery
James E. Mabie, B.S., M.D., Clinical Associate in Family Practice
Patrick John Madden, B.A., M.D., Clinical Associate in Family Practice
Bernard Magid, B.A., M.D., Assistant Professor of Obstetrics and Gynecology
Joan C. Mahle, B.A., M.S.W., Instructor in Pediatrics
Theodore A. Mahowald, A.B., Ph.D., Associate Professor of Biochemistry
Edward Marvin Malashock, B.A., M.D., Associate Professor of Urology and Associate in Physical Medicine and Rehabilitation
Darrel S. Mandel, B.S., M.D., Assistant Professor of Radiology
Edward S. Maness, B.S., M.D., Assistant Professor of Otolaryngology and Maxillo-Facial Surgery
Deane S. Marcy, B.S., M.D., Assistant Professor of Preventive Medicine and Public Health
Hal Kennedy Mardis, B.S., M.D., Assistant Professor of Urology
Joan F. Mares, B.A., Assistant Instructor in Division of Medical Technology
David Smith Marshall, B.A., D.D.S., M.S., Instructor in Surgery (Oral)
Ben O. Martin, B.A., M.D., Clinical Associate in Family Practice
Gary L. Martin, B.S., M.A., Ph.D., Assistant Professor of Preventive Medicine and Public Health
Roger Dale Mason, M.D., Clinical Associate in Family Practice
Daniel H. Mathers, B.S., M.D., Assistant Instructor in Internal Medicine
Jack Mathews, B.S., M.D., Instructor in Internal Medicine
John James Matoole, Jr., M.D., Associate Professor of Internal Medicine
John T. Matschiner, B.S., M.S., Ph.D., Professor of Biochemistry
Janet M. Maule, B.A., M.S.W., Instructor in the Division of Allied Health
Gary W. May, D.D.S., Instructor in Pediatrics
Mary Jo Mays, B.S., M.S., Assistant Professor of Physical Therapy
John O. McCarthy, B.S., M.D., Assistant Professor of Obstetrics and Gynecology
Robert E. McCarthy, B.S., M.S., Ph.D., Associate Professor of Microbiology
Douglas D. McDonnell, R.T., Assistant Instructor in Radiology
Harry Webber McFadden, Jr., A.B., M.D., Professor of Medical Microbiology (Chairman of Department) and Professor of Pathology, Interim Associate Dean for Graduate Studies
Dean Allen McGee, B.S., M.D., Clinical Associate in Family Practice
Kenneth T. McGinnis, B.S., M.D., Clinical Assistant Professor of Obstetrics and Gynecology
Matilda McIntire, A.B., M.D., Associate Professor of Pediatrics
Carleen A. McIntyre, B.S., Instructor in Division of Medical Technology
Deborah Lynn McMaster, B.S., B.A., Assistant Librarian and Instructor in Library Science
John McMillan, B.S., M.A., Lecturer in Radiology
Charles E. McMinn, B.A., M.D., Clinical Associate in Family Practice
Clairene Austin McWhorter, B.S., M.D., Professor of Pathology (Chairman of Department) Director, Division of Medical Technology
James E. McWilliams, B.A., B.S., Assistant Instructor in Physiology and Biophysics
Roland D. Meader, B.S., M.A., Ph.D., Professor of Anatomy
Benjamin R. Meckel, B.S., M.D., Clinical Associate in Family Practice
Clyde Avery Medlar, B.S., M.D., Clinical Associate in Family Practice
Myron A. Mehlman, B.S., Ph.D., Professor of Biochemistry
Gilbert W. Meier, A.B., M.A., Ph.D., Professor of Medical Psychology, Psychiatry, and Professor of Pediatrics
Richard Harris Meissner, B.A., M.D., Assistant Professor of Ophthalmology
Shirley Ann Melcher, B.A., M.S. W., Instructor in Psychiatric Social Work, Psychiatry

*Leave of absence

William C. Melcher, B.A., M.D., Instructor in Anesthesiology
Frank Menolascino, B.A., M.D., Associate Professor of Pediatrics, Professor of Psychiatry,
 Clinical Director, Division of Preventive and Social Psychiatry
Robert Haskell Messer, M.D., Professor of Obstetrics and Gynecology (Chairman of Department)
Dormond E. Metcalf, B.S., M.D., Clinical Associate in Family Practice
William K. Metcalf, M.B., B.S., M.D., (Chairman of Department)
Gerald H. Mettler, B.S., M.S., Assistant Instructor in Pharmacology
LeeRoy Meyer, B.S., M.D., Assistant Professor of Internal Medicine
Arleen Michael, B.S., M.S., Instructor in Psychiatry
Maria Michedja, D.M.S., Research Instructor in Pediatrics
Bruce A. Miller, B.S., M.D., Instructor in Orthopedic Surgery
Daniel Martin Miller, B.S., M.D., Associate Professor of Surgery
Norman Gustav Miller, B.S., M.S., Ph.D., Professor of Microbiology (Vice Chairman of Department)
Otis William Miller, B.S., M.D., Clinical Associate in Family Practice
Warren Robert Miller, A.B., M.D., Clinical Associate in Family Practice
David William Minard, B.S., M.D., Associate Professor of Orthopedic Surgery
Sidney S. Mirvish, B.S., M.S., Ph.D., Associate Professor of Biochemistry, Professor, Eppley Institute
Vincent F. Miscia, B.A., M.D., Associate Professor of Internal Medicine
Howard Eugene Mitchell, M.D., Clinical Assistant Professor of Orthopedic Surgery
Yoshio Miyazaki, B.S., M.D., Assistant Professor of Pediatrics
Samuel F. Moessner, B.S., M.D., Clinical Instructor in Surgery
***Ulrich Mohr**, M.D., Senior Visiting Professor of Pathology
George L. Monto, A.A., B.S., M.D., Assistant Professor of Internal Medicine
Burdette J. Moor, M.D., Instructor in Surgery
Ralph Cory Moore, B.S., M.D., Professor of Radiology
Paul Keniston Mooring, B.A., M.D., Professor of Pediatrics
Donal Harlan Morgan, B.S., M.D., Clinical Associate in Family Practice
Judith A. Morgan, B.S., Instructor in Division of Physical Therapy
C. Michael Moriarty, B.S., M.S., Ph.D., Assistant Professor of Physiology and Biophysics
Gwendolyn C. Moriarty, B.A., Ph.D., Assistant Professor of Anatomy
Gerald Lee Morris, B.S., M.D., Assistant Professor of Pathology
Haskell Morris, B.A., M.D., Associate Professor of Internal Medicine
William Howard Morrison, B.S., M.D., Professor of Ophthalmology
Clementine Morrow, B.S., M.S., Instructor in Psychiatry
Carlos Roberto Mota, B.S., M.D., Assistant Professor of Surgery
Stanley T. Mountford, B.A., M.D., Clinical Associate in Family Practice
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 Director of the Office of Continuing Education and Educational Services
Wilbur A. Muehlig, A.B., M.D., Associate Professor of Surgery and of Neurology
Phyllis A. Muellenberg, B.S., M.A., Instructor in Division of Medical Technology
Charles George Muffly, B.S., M.D., Clinical Associate in Family Practice
Robert Benton Muffly, B.A., M.D., Associate Professor of Psychiatry and of Internal
 Medicine
Loren Jay Mulhair, B.S., Assistant Instructor in Physical Medicine and Rehabilitation
William Charles Mulry, B.A., M.D., Assistant Professor of Radiology
Willis Philip Mundt, A.A., M.D., Assistant Professor of Radiology
John E. Murphy, B.A., M.D., Clinical Associate in Family Practice
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Grant George Myers, B.S., M.S., Ph.D., Associate Professor of Physiology and Biophysics
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Lyle Herman Nelson, B.A., M.D., Clinical Associate in Family Practice
Norma Mae Nelson, B.M.E., M.S.W., Instructor in Obstetrics and Gynecology
Paul J. Nelson, B.A., B.S., M.S., M.D., Instructor in Pediatrics
James R. Newland, B.A., B.S., M.D., Assistant Professor of Pathology
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Ian M. Newman, B.S., M.S., Ph.D., Associate Professor of Preventive Medicine and Public
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Karl Friedrich Niehaus, M.D., Instructor in Internal Medicine
William Charles Niehaus, B.S., M.D., Clinical Associate in Family Practice
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Gerald Niewoehner, A.B., M.Ed., Ph.D., Assistant Professor of Vocational Rehabilitation, Psychiatry
Donald Charles Nilsson, A.B., M.D., Assistant Professor of Pediatrics
Thomas W. Norris, A.B., M.A., Ph.D., Professor of Audiology and Speech Pathology (Director of Division)
John W. North, B.A., Instructor in Psychiatry
Edmund Anthony Novak, B.S., M.S., M.D., Assistant Professor of Internal Medicine and of Radiology
Dan Atchison Nye, M.D., Assistant Professor of Internal Medicine
William Frank Nye, B.A., M.A., M.D., Instructor in Ophthalmology
Tae-Yo O, M.D., Assistant Professor of Neurology
Byron Bay Oberst, B.A., M.D., Associate Professor of Pediatrics
Leo E. O'Brien, M.D., Assistant Professor of Internal Medicine
John P. O'Gara, B.S., M.D., Instructor in Anesthesiology
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Leland J. Olson, A.B., M.D., Associate Professor of Obstetrics and Gynecology
Raymond H. Olson, B.S., M.S., M.D., Clinical Associate in Family Practice
Paul Bryant Olsson, B.S., M.D., Clinical Associate in Family Practice
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Harlan Louis Papenfuss, A.B., M.D., Assistant Professor of Pathology
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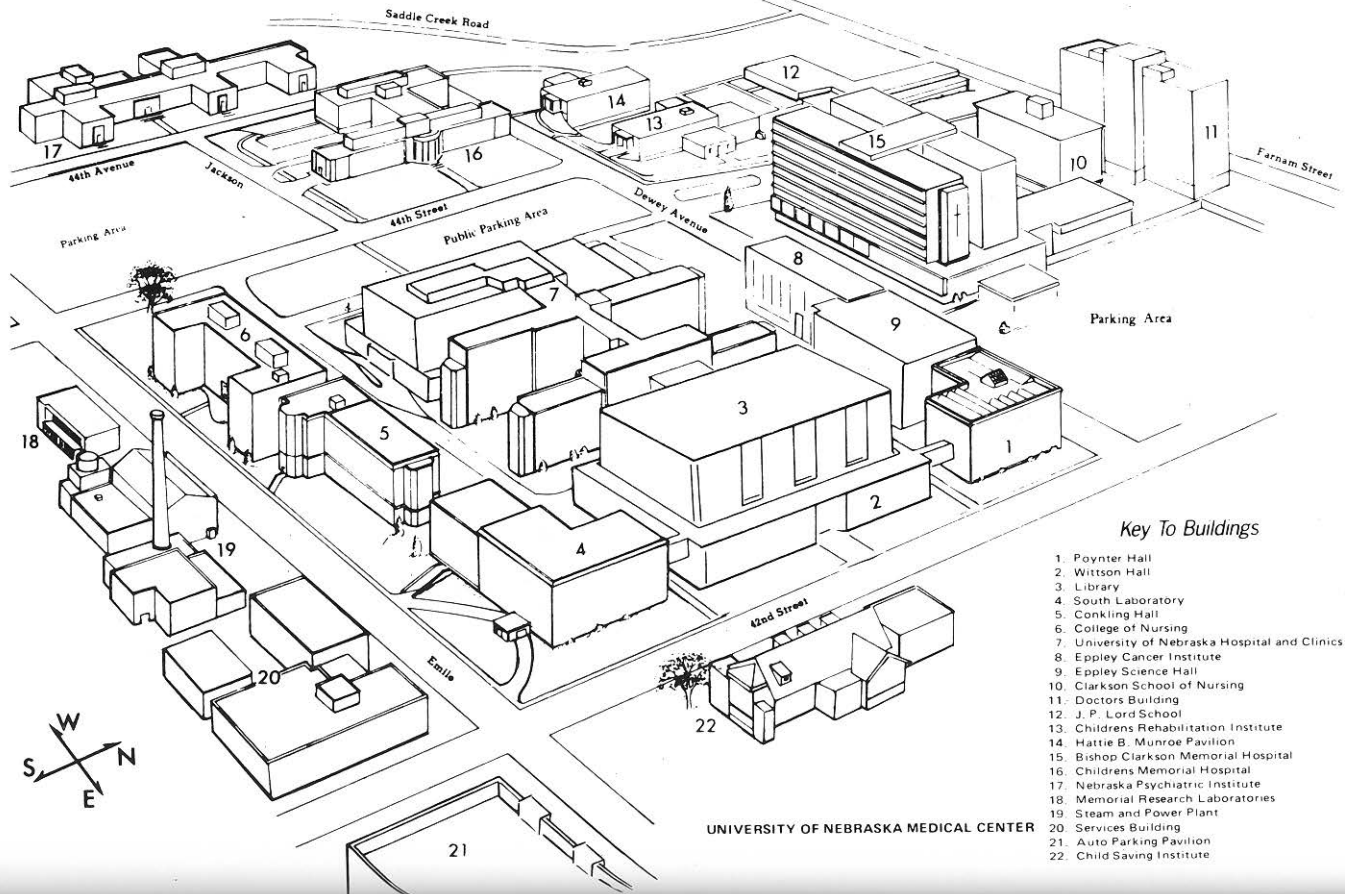
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1. Poynter Hall
2. Wittson Hall
3. Library
4. South Laboratory
5. Conkling Hall
6. College of Nursing
7. University of Nebraska Hospital and Clinics
8. Eppley Cancer Institute
9. Eppley Science Hall
10. Clarkson School of Nursing
11. Doctors Building
12. J. P. Lord School
13. Childrens Rehabilitation Institute
14. Hattie B. Munroe Pavilion
15. Bishop Clarkson Memorial Hospital
16. Childrens Memorial Hospital
17. Nebraska Psychiatric Institute
18. Memorial Research Laboratories
19. Steam and Power Plant
20. Services Building
21. Auto Parking Pavilion
22. Child Saving Institute

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