The University of Arizona Record
College of Medicine
Catalog 1982-83
University of Arizona
Tucson, Arizona
THE COLLEGE OF MEDICINE
CATALOG
1982-1983

THE UNIVERSITY OF ARIZONA
TUCSON, ARIZONA

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All colleges and departments establish certain academic requirements which must be met before a degree is granted. These requirements concern such things as curricula and courses, majors and minors, and campus residence. Advisors, directors, department heads and deans are available to help the student understand and arrange to meet these requirements, but the student is responsible for fulfilling them. At the end of a student's course of study, if requirements for graduation have not been satisfied, the degree will not be granted. For this reason it is important for each student to acquaint himself or herself with all regulations and to remain currently informed throughout his or her college career and to be responsible for completing requirements. Courses, programs, and requirements described in the catalog may be suspended, deleted, restricted, supplemented or changed in any other manner at any time at the sole discretion of the University and the Arizona Board of Regents. The catalog does not establish a contractual relationship but it summarizes the total requirements which the student must presently meet before qualifying for a faculty recommendation to the Arizona Board of Regents to award a degree.

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MEDICAL SCHOOL ACADEMIC CALENDAR 1982-1983
(TENTATIVE)

Year I

Orientation .............................................................. Friday, July 30, 1982
Classes Begin .......................................................... Monday, August 2, 1982
Labor Day (holiday) ...................................................... Monday, September 6, 1982
Fall Recess .............................................................. Thursday, October 7-Sunday, October 10, 1982
Veterans’ Day (holiday) ............................................ Thursday, November 11, 1982
Thanksgiving (holiday) ............................................... Thursday, November 25-Sunday, November 28, 1982
Winter Break ............................................................. Tuesday, December 21, 1982-Sunday, January 2, 1983
Classes Resume ........................................................ Monday, January 3, 1983
Rodeo Day (holiday) .................................................... Thursday, March 3, 1983
Spring Recess ............................................................ Saturday, March 12-Sunday, March 20, 1983
Memorial Day (holiday) ............................................. Monday, May 30, 1983
End of Year I ............................................................. Wednesday, June 1, 1983
Summer Vacation ......................................................... Thursday, June 2-Sunday, July 30, 1983

Year II

Classes Begin .......................................................... Monday, August 2, 1982
Labor Day (holiday) ...................................................... Monday, September 6, 1982
Fall Recess .............................................................. Saturday, October 2-Sunday, October 10, 1982
Veterans’ Day (holiday) ............................................ Thursday, November 11, 1982
Thanksgiving (holiday) ............................................... Thursday, November 25-Sunday, November 28, 1982
Winter Break ............................................................. Saturday, December 18, 1982-Sunday, January 2, 1983
Classes Resume ........................................................ Monday, January 3, 1983
Rodeo Day (holiday) .................................................... Thursday, March 3, 1983
Spring Recess ............................................................ Saturday, March 12-Sunday, March 20, 1983
End of Basic Science Classes ....................................... Friday, May 6, 1983
NBME Board Study ...................................................... Saturday, May 7-Monday, June 13, 1983
NBME Part I ............................................................... Tuesday, June 14-Wednesday, June 15, 1983
Summer Vacation ......................................................... Thursday, June 16-Sunday, June 19, 1983
MEDICAL SCHOOL ACADEMIC CALENDAR 1982-1983
(TENTATIVE)

Year III

Classes Begin .......................................................... Monday, June 21, 1982
Period 1 ................................................................. Monday, June 21-Saturday, July 31, 1982
Independence Day (holiday) ......................................... Monday, July 5, 1982
Period 2 ................................................................. Monday, August 2-Saturday, September 11, 1982
Labor Day (holiday) .................................................... Monday, September 6, 1982
NBME, Part I (repeat) ................................................. Wednesday, September 8-Thursday, September 9, 1982
Period 3 ................................................................. Monday, September 13-Saturday, October 23, 1982
Period 4 ................................................................. Monday, October 25-Saturday, December 4, 1982
Veterans’ Day (holiday) .............................................. Thursday, November 11, 1982
Thanksgiving Day (holiday) .......................................... Thursday, November 25, 1982
Period 5 ................................................................. Monday, December 6, 1982-Saturday, January 29, 1983
Winter Break ......................................................... Saturday, December 18, 1982-Sunday, January 2, 1983
Period 6 ................................................................. Monday, January 31-Saturday, March 12, 1983
Rodeo Day (holiday) .................................................... Thursday, March 3, 1983
Spring Recess .......................................................... Saturday, March 12-Sunday, March 27, 1983
Period 7 ................................................................. Monday, March 28-Saturday, May 7, 1983
Period 8 ................................................................. Monday, May 9-Saturday, June 18, 1983
Memorial Day (holiday) ................................................ Monday, May 30, 1983

Year IV*

Classes Begin .......................................................... Monday, June 21, 1982
Labor Day (holiday) .................................................... Monday, September 6, 1982
NBME, Part II ......................................................... Tuesday, September 28-Wednesday, September 29, 1982
Veterans’ Day (holiday) .............................................. Thursday, November 11, 1982
Thanksgiving (holiday) ................................................ Thursday, November 25, 1982
Winter Break ......................................................... Saturday, December 18, 1982-Sunday, January 2, 1983
Rodeo Day (holiday) .................................................... Thursday, March 3, 1983
NBME, Part II (repeat) ................................................. Wednesday, April 6-Thursday, April 7, 1983
Convocation ............................................................. Friday, May 13, 1983
Graduation ............................................................... Saturday, May 14, 1983

Elective Periods ....................................................... See Electives Manual

*Year IV Students do not have Spring Break. They may, however, schedule vacations as explained in the text of the Electives Manual, available in Office of Student Records.
THE UNIVERSITY OF ARIZONA

The University of Arizona is one of three publicly-supported institutions of higher learning in Arizona under the jurisdiction of the Arizona Board of Regents. It was established in 1885 as a land grant institution, 27 years before Arizona was admitted to the Union as the 48th state. During its colorful history it has developed into one of the great universities of the southwestern United States with 14 colleges, six schools, 119 academic subdivisions and departments and 45 divisions of research and special service.

Commensurate with the rapid growth of the state during the past two decades, the University has grown to its present enrollment of over 35,000 students, 6,689 of whom are enrolled in graduate studies. The bachelor’s degree is offered in 134 programs, the master’s degree in 123, and the doctorate in 82, plus other degrees available in 11 fields. The university offers a total of 189 fields of study. Its more than 95,000 active alumni are represented in every community in Arizona, all of the United States, and in many foreign countries.

The University is located about one mile from the downtown area in Tucson- the center of a rapidly growing metropolitan area with a population of more than 545,000.
THE COLLEGE OF MEDICINE

In 1962, the Arizona Board of Regents granted authorization to the University of Arizona to develop a College of Medicine. Ground was broken in May 1966 for the Basic Sciences Building which was completed in September 1967 and occupied that same month by the 32 students of the first class.

A second class of 32 students entered the College in the fall of 1968, and the first full class of 64 students was enrolled in September 1969. In May 1971, the M.D. degree was granted to the members of the first graduating class and to date more than 760 students have been graduated. Since 1976 the size of the entering class has been 88 students. The College of Medicine presently has an enrollment of more than 350 full-time medical students.

Through the sale of self-liquidating bonds and additional matching funds from the United States Public Health Services, planning was completed for the Clinical Sciences Building and 300-bed University Hospital. Construction was begun in the summer of 1968 and completed in July 1971.
Physical Facilities

The University of Arizona Health Sciences Center complex consists of four interconnected buildings, situated on a 30-acre site just north of the main campus of the University. These include the Basic Sciences Building, Clinical Sciences Building, Outpatient Clinic and University Hospital. In close proximity are the College of Nursing, located just south of the Basic Sciences Building and the College of Pharmacy.

A student wing of the Basic Sciences Building houses the multidisciplinary laboratories, lecture rooms, student lounge and support facilities. Centralized animal quarters, administrative services and part or all of the six basic science departments (anatomy, biochemistry, molecular and medical microbiology, pharmacology, pathology, and physiology) are also housed in this building.

LIBRARY:

The Health Sciences Center Library was one of the earliest units planned for the Center, and opened its doors in September 1967, when the first College of Medicine class began studies. Occupying 32,000 square feet of space, the library currently houses approximately 125,000 bound volumes, 3200 media titles, and subscribes to 3200 journals.

As part of the nationwide medical library network sponsored by the National Library of Medicine, the Health Sciences Center Library is the subregional library serving Arizona for the
Pacific Southwest Regional Medical Library Service. Its resources are available not only to students and faculty of the University, but also to all health care providers throughout Arizona. Experienced reference librarians are on duty during the day, in the evening, and on Saturday, to assist patrons in the use of the collection and to explain all of the services offered by the library.

Special services and features of the library include: (1) Computer-based on-line information retrieval services in medicine and the health-related sciences. (2) A computer-based on-line cataloging system accessing catalog records from a central data base. (3) A computer-based on-line circulation system. (4) A media department including over 3000 titles (audiotapes, videotapes, slides, sound programs, and models), one large viewing room, models room, and eight study carrels especially equipped to accommodate all media formats. (5) A Field Librarian providing reference services and consultation services to health workers and health sciences libraries throughout Arizona. (6) Twenty-four hour access, except for two holidays each year, Christmas Day and New Year’s Day.

The Health Sciences Center Library offers special orientation classes in medical bibliography and information retrieval. These are included in the College of Medicine curriculum as part of introductory course work.

**Clinical Facilities:**

The 300-bed University Hospital, with supporting clinical research facilities, provides a comprehensive resource for education and research in clinical medicine and for programs designed to investigate, demonstrate, and promote means for achieving health care of the highest possible quality.

Additional facilities currently in use by the College of Medicine include the Tucson Veterans Administration Medical Center, Tucson Medical Center, Kino Community Hospital and Palo Verde Hospital, all in Tucson; Maricopa County General Hospital, Good Samaritan Hospital, Veterans Administration Medical Center and Scottsdale Memorial Hospital, all in Phoenix. The faculty of the College supervise the undergraduate medical education programs at these institutions.

**Educational Philosophy and Curriculum**

The faculty and staff of the Health Sciences Center are dedicated to implementing a broadly-based program of education, research, and service in the health fields. Although identifying most directly with the aspirations of the people of Arizona, the College of Medicine is committed to excellence without geographical confines. At a time when the University community is increasingly called upon to respond to the needs of society, it is the objective of the College of Medicine to address itself to the biological, cultural, sociological and economic factors which affect health and the delivery of medical care throughout the state, nation and world.

The curriculum of the College is under continual review to ensure that it reflects these objectives. Moving from a traditional lock-step curriculum in the late 1960's, the faculty responded to educational needs by establishing a basic three-year curriculum in 1972. Based on changing national needs for manpower and recognizing the pressures of a rapidly paced curriculum, a lengthened basic curriculum was adopted in January, 1977. This curriculum is divided into approximately equal portions of basic and clinical sciences spanning a period of approximately four calendar years.

Although a large number of medical school graduates will undoubtedly continue their studies in the specialties of medicine, the College recognizes the importance of primary medical care. Through the Department of Family and Community Medicine and various outreach facilities, students and faculty work together in continuing and comprehensive care of patients. The concept of the physician as a member of the total health team is stressed in these ambulatory clinical experiences where the student has the opportunity to learn the social, psychological and economic effects of disease.

The curriculum is predicated upon the belief that education for a lifetime of continued professional learning should be based upon a problem-solving framework. Emphasis is placed
on key concepts, principles and factual knowledge to be used as the reservoir for the problem-solving process. Flexibility is designed with adequate free time to develop a program of scheduled and elective offerings to maximize preparation for any of several career options from primary care medical practice to academic scientist.

At graduation students will be broadly educated in the science and humanism of medicine and ready for the final training period which, in turn, will prepare them for careers in primary care medical practice or in medical specialties. Such training is available at the Arizona Health Sciences Center through its residency programs. In addition, the needs of the practicing physician for a lifelong learning in order to keep abreast of the rapid advances in medicine are met through programs for continuing medical education.

THE CURRICULUM:

Orientation (One Day):

The administration and selected faculty and students spend one day orienting new students to the College of Medicine. Topics discussed include the educational goals of the curriculum, counseling and advising, financial aid, study skills and student government.

Basic Sciences:

During the first year, anatomy, physiology, biochemistry and neurosciences (a multidisciplinary course taught in an integrated format with both anatomical and physiological concepts) occupy the major portion of curricular time. In the second basic sciences year, pathology, microbiology and pharmacology are taught.
Preparation for Clinical Medicine begins in the first weeks of the first year curriculum, providing the students with information about selected topics in medicine and early clinical exposure with practicing community physicians. Clinical experiences increase as the curriculum progresses. During the second year, physical examination and interviewing skills are taught.

So that students may become more aware of the humanism of medicine and the behavioral sciences as they relate to biological and clinical disciplines, a course in Human Behavior and Development starts during the second semester of the first year of the basic sciences and continues in the second year.

Clinical Sciences:

During the last two years of medical school, students are enrolled in clerkships in Year III and electives during the Year IV.

Hospital inpatient wards and outpatient clinics are the classrooms during these years. In the third year the student takes 48 weeks of required clerkships as follows: pediatrics (six weeks); obstetrics/gynecology (six weeks); psychiatry (six weeks); neurology (three weeks); family medicine (six weeks); internal medicine (twelve weeks); general surgery (six weeks); and selectives (three weeks). Students are also required to take a three-week surgery Specialty Clerkship. This may be done as the student’s third-year elective or in the fourth year.

For students taking the surgery Specialty Clerkship in the third year, at least thirty-three weeks of electives are required in the fourth year. For students not taking the surgery Specialty Clerkship in the third year, 30 weeks of electives and three weeks of the surgery Specialty Clerkship are required in the fourth year. If approved, fifteen weeks may be taken outside of the College of Medicine. Working with a career advisor from the faculty, the student plans an elective year to best prepare for a particular career goal. Elective experiences in both clinical and non-clinical areas are designed to add both breadth and depth to the professional education of the student.

See pages 12-13 for outline of the curriculum.

In addition to University Hospital and other hospitals in Tucson, clinical facilities throughout the state, especially in the major teaching hospitals of Phoenix, are employed in the educational experience. A student matriculating at the College of Medicine can assume that at least a portion of required curriculum time in the clinical years may occur outside of Tucson.

OFFICE OF MEDICAL EDUCATION:

The Office of Medical Education assists the faculty of the College of Medicine in various aspects of education such as course development and faculty teaching enrichment. Through periodic data collecting, the office conducts continuing assessment of the college curriculum and its impact on students. Office of Medical Education staff contribute as ex-officio members of the Curriculum Committee, curriculum subcommittees, and some departmental educational committees. The staff also conducts research into various aspects of medical education and provides consultation to faculty for their educational research.

CURRICULUM POLICIES:

University policy expects students to be regular and punctual in class attendance and affirms that students themselves are primarily responsible for attendance. Each instructor will provide students a written statement of his or her policy in respect to absences.

Students wishing to petition for exemption from basic science courses may do so by directing requests to the departments. Such requests will be considered on an individual basis according to departmental policies and will be granted only in exceptional cases. Students in the Basic Science portion of the curriculum may enroll in various elective courses for which they meet the prerequisites and as they have available time. These electives may be used to fulfill clinical science or elective year requirements with prior permission of the Curriculum Committee.

Under the curriculum the requirements for the M.D. degree are completed in June of the
fourth year. Some students may choose to complete their requirements in 3-1/2 years. Thus, although the College functions under a regular four-year program, efficiency and competency, not time, are the criteria by which progress is measured.

Student Research Opportunities

Students are encouraged to participate in research activities. Under a five-year grant from the National Institutes of Health, research experiences with stipends will be offered to qualified medical students. In addition, extracurricular experiences (i.e., course in research methodology, clinical research correlation seminars, a student research club and a research mentor-career advisor system) will be offered to such students. Student research is also funded through the Dean's Office in the form of summer stipends, supply monies and travel support to encourage students to present their results at scientific meetings.

Graduate Education

BASIC SCIENCES:

A formal M.D./Ph.D. program is available. Students wishing to pursue the combined degree must first be admitted to the College of Medicine and then apply for acceptance into the combined degree program. The Ph.D. may be obtained from the Departments of Anatomy, Biochemistry, Molecular and Medical Microbiology, Pharmacology and Physiology. The two degrees will be awarded concurrently and certain courses taken in the medical curriculum may be applied to the Ph.D. requirements. The combined degree program has a duration of 6 to 7 years.

RESIDENCY TRAINING:

Specialty training in the clinical disciplines is provided by the Departments of Anesthesiology, Family and Community Medicine, Internal Medicine, Neurology, Obstetrics and Gynecology, Pathology, Pediatrics, Psychiatry, Radiology, and Surgery. Further information concerning these programs may be obtained by contacting the Head of the Department in each instance.
Postgraduate Education

The Office of Continuing Medical Education and Outreach serves as a central resource for the coordination, integration and facilitation of continuing medical education and outreach for the faculty and the physicians of Arizona. The goals and objectives of the office include the initiation of effective continuing medical education programs appropriate to the needs of Arizona physicians. Furthermore, the office strives to make these programs available to physicians regardless of the location of their practice. The office is responsible for the development and coordination of programs outside the College of Medicine necessary for the education of medical students and housestaff as well as practicing physicians, and in so doing, reinforces the concept of medical education as a continuum and one of lifelong learning. The office provides programs in continuing medical education that identify and utilize areas of excellence within the University of Arizona College of Medicine, thereby benefiting not only physicians within the state of Arizona, but also physicians, teachers and researchers at a national and international level.

One such program is the Mini-Residency. In this program the physician leaves his practice and returns to the academic environment for an individually tailored schedule which utilizes ongoing conferences, rounds, undergraduate and graduate teaching programs, audiovisual and self-instruction programs and a full spectrum of ongoing education programs at the College of Medicine.

For information on specific programs, please contact the Office of Continuing Medical Education and Outreach, University of Arizona College of Medicine, Tucson, Arizona, 85724. Telephone: (602) 626-6173.
# CURRICULUM OUTLINE

## BASIC SCIENCES

### YEAR I

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GROSS ANATOMY</strong></td>
<td><strong>NEUROSCIENCES</strong></td>
</tr>
<tr>
<td>198 hours</td>
<td>102 hours</td>
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</table>

<table>
<thead>
<tr>
<th>Year II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pathology</strong></td>
</tr>
<tr>
<td>152 hours</td>
</tr>
</tbody>
</table>

### YEAR II

<table>
<thead>
<tr>
<th>Fall Semester</th>
<th>Spring Semester</th>
</tr>
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</table>
| **BIOCHEMISTRY**
  98 hours or
  **INTERMEDIATE BIOCHEMISTRY**
  88 hours | **PHYSIOLOGY** |
| 227 hours     | 126 hours       |

| **Microbiology** | **Pharmacology** |
| 111 hours       | 111 hours       |

| **Preparation for Clinical Medicine** | **PCM** |
| 50 hours | 100 hours plus three field trips | 110 hours (course) |

| **Microanatomy** | **Human Behavior and Development** | **Hb & D** |
| 100 hours | 80 hours | 60 hours |

| **Pcm** | **Pcm** | **Pcm** |
| 60 hours (Preceptorship) | 60 hours | 60 hours |

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All hours are estimates. Compiled by the Office of Medical Education and updated March 1982.

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Orientation: Fall Recess, Christmas/New Year's Recess, Spring Recess, Two-Month Vacation, Fall Recess, Christmas/New Year's Recess, Spring Recess

- Important events
- Breaks
CURRICULUM OUTLINE

CLINICAL SCIENCES

YEAR III

Summer

CLERKSHIPS

48 weeks required

INTERNAL MEDICINE
12 weeks required

GENERAL SURGERY
6 weeks required

SPECIALTY SURGERY*
3 weeks required

* In Year III or Year IV

PEDIATRICS
6 weeks required

Optional 3 week extension

OBSTETRICS/GYNECOLOGY
6 weeks required

Optional 3 week extension

FAMILY MEDICINE
6 weeks required

Optional 3 week extension

PSYCHIATRY
6 weeks required

Optional 3 week extension

NEUROLOGY
3 weeks required

Optional 3 week extension

YEAR IV

Summer

ELECTIVES

33 weeks required

DEPARTMENT OFFERINGS

ANATOMY
4

ANESTHESIOLOGY
5

BIOCHEMISTRY
1

FAMILY & COMMUNITY MEDICINE
9

INTERNAL MEDICINE
29

MICROBIOLOGY
1

NEUROLOGY
3

OBSTETRICS/GYNECOLOGY
4

PATHOLOGY
4

PEDIATRICS
21

PHARMACOLOGY
2

PHYSIOLOGY
1

PSYCHIATRY
6

RADIOLOGY
5

SURGERY
21

SEMINARS

Interdepartmental & Departmental

(See Electives Manual for course details.)

June

BME Part I

Vacation¹

September

NBME Retake

Christmas/New Year's Recess

April

NBME Part II

Spring Recess

September

NBME Retake

Christmas/New Year's Recess

Graduation

¹Twelve weeks of unscheduled time during the two Clinical Sciences years are available for vacations and interviews.
ADMISSIONS

Admission to the First-Year Class

GENERAL: The University of Arizona College of Medicine follows the recommended acceptance procedures of the Association of American Medical Colleges (AAMC). These may be found in the most recent copy of the Medical School Admissions Requirements book, published annually by the AAMC. Everyone interested in attending medical school should consult this book, as it contains a great deal of useful information. The most recent copy may be obtained for $7.50 by writing to the AAMC (address on page 20).

Acceptance to the University of Arizona College of Medicine is based upon an assessment of the applicant’s intellectual and personal traits, fulfillment of certain prerequisites outlined below, and consideration of the applicant’s state of residence. Preference is given first to residents of Arizona and next to a few highly qualified applicants who are residents of Alaska, Montana and Wyoming, and are certified by the Western Interstate Commission for Higher Education (WICHE). Applicants from states other than these cannot be considered. In evaluating applicants, the Admissions Committee considers ability and scholarship as indicated by the entire academic record, the results of the new Medical College Admission Test (MCAT), personal statement, letters of recommendation, and personal interviews. (See below under Admission Process.)

In compliance with Section 504 of the Rehabilitation Act of 1973, the University of Arizona does not discriminate on the basis of handicap in admission or access to its programs and activities.

PREREQUISITES: The College of Medicine encourages applications from all interested students irrespective of their area of study. However, each applicant must meet the following minimum requirements:

1. Successful completion of three full years of study at an accredited college or university, including 30 semester hours (45 quarter hours) which must be upper division. This is considered equivalent to 90 semester hours or 135 quarter hours.
2. Successful completion of two full semesters (or three quarters) in each of the following areas: general chemistry, organic chemistry, physics, general biology or zoology, and English.
3. Provide MCAT scores from Series 7, given in April 1980, or any more recent MCAT.

APPLICATION PROCEDURE: The University of Arizona College of Medicine participates in the American Medical College Application Service (AMCAS). Persons seeking admission to the entering class must process their applications through AMCAS, even if this is the only school to which they apply. Those wishing to make application for the class entering in 1983 should follow the steps outlined below:

1. Arrange to take the new Medical College Admission Test (MCAT), preferably in the Spring prior to application, by writing to the American College Testing Program (address on page 20).
BETWEEN JUNE 1 AND NOVEMBER 1, 1982

2. Obtain an AMCAS application packet. Application may be obtained only by using an AMCAS Application Request Card, available from any participating medical school or from most premedical advisors. Upon receipt of this card, AMCAS will send the necessary material to the applicant immediately.

3. Complete and return the AMCAS application. Follow instructions in the application packet and return the completed applications to the AMCAS office. (Please do not send this material to the medical school.) You must request the registrar of each college and university you have attended to forward official transcripts directly to the AMCAS office. All transcripts should arrive before your application reaches the AMCAS office so as not to delay processing of your materials. In your instructions to AMCAS, you designate the medical schools to which you wish to apply and pay a fee based on the number of those schools. Even if you have previously applied to this school, or any other school under AMCAS, you must submit an entirely new application and transcripts each year.

4. Return AMCAS application by November 1, 1982. Applications to the University of Arizona College of Medicine must reach the AMCAS office by November 1, 1982. Please allow sufficient time for mail delivery since applications received in Washington after this date cannot be considered by this college.

5. Await notification of receipt of application. You will receive notice first from AMCAS and later from this school that your application has been received. The AMCAS application constitutes the preliminary application to this College of Medicine.

6. Initial screening of applications. After an initial screening to determine your state residency you will be notified as to the disposition of your preliminary application. Those who will not be considered further are notified as soon as possible so they may concentrate their efforts on schools where their opportunities may be greater.

7. Receipt of supplementary materials. Those who pass the initial screening process will receive a packet of supplementary materials that are specific to this College of Medicine. Instructions are contained with this packet, and all materials should be returned directly to the Admissions Office, College of Medicine, University of Arizona, Tucson, Arizona, 85724. (Please do not send any of this material to AMCAS.)

8. Invitation to appear for personal interview. All applicants receiving supplementary materials will be invited to appear for a personal interview at the College of Medicine. All appointments are made by the Admissions Office. Since the personal interview is an integral part of the admissions process, no applicant can be considered without it. At the time of the interview, you will have an opportunity to meet with medical students and tour the Health Sciences Center. Interviews take place between October and January. Interviews are conducted over the Christmas holiday period, primarily, for those applicants attending schools outside Arizona. However, where travel to Tucson would result in an undue financial burden, it may be possible to arrange for interview summaries to be sent from other schools where the applicant has been interviewed. Such requests may be made at the time you are invited for your interview.

9. Notification that file is complete. After all your materials have been received and you have had your interview, you will be notified that your application is complete. The Admissions Office will periodically review all files and notify you if any materials are still missing. However, we recommend that you complete your file prior to December 31, 1982, since selection of the entering class takes place between January and March of 1983.

JANUARY 15 TO MARCH 15, 1983

10. Notification of action by the Admissions Committee. In early December 1982, the Admissions Committee will begin to take action on all applicants whose files are complete. Letters of acceptance will be sent on January 15, February 15 and March 15,
1983 (or the first working day thereafter). Notification of rejection or alternate status will be sent out on March 15, 1983.

11. Accepted applicants must submit a letter of intent to hold their place in the class (within two weeks). No deposit is required. If an accepted applicant later receives an acceptance from a school of higher preference, the College of Medicine should be notified of the decision to accept another school’s offer as soon as possible. Many well qualified students are alternates each year. It is the obligation of each accepted applicant to withdraw, upon making a decision to go elsewhere, in order to give those not yet selected the opportunity to compete for a vacancy in the class.

AFTER MARCH 15, 1983

12. At any time, an applicant holding a position on the Alternate List may receive an acceptance if a place becomes available. Procedures in such cases are spelled out in the acceptance letter.

13. Final acceptance for enrollment for all accepted applicants is contingent upon a continued satisfactory level of academic and personal performance, completion of required course work prior to July 15, 1983, and all other requirements. Failure to meet those conditions will be cause for withdrawal of the acceptance.

14. Any student accepted for enrollment who wishes to be exempted from any medical school course may petition the appropriate department to be relieved of the necessity of taking the department’s formal course. The decision rests with the individual department and is based on the merits of each request.

Admission Process

Applicants apply directly to the American Medical College Application Service (AMCAS), where one application will be reproduced and sent to all the schools to which the applicant wishes to apply. When AMCAS applications are received at the College of Medicine, they undergo an initial screening. All Arizona residents are sent additional materials and invited for personal interviews. A few highly qualified applicants from Alaska, Montana and Wyoming, who have passed the initial screening, are sent additional materials and invited for a personal interview. All applicants who are residents of any other state are automatically sent a preliminary rejection. The deadline for applications is November 1, 1982.

The Admissions Committee uses five major criteria in the selection of students: academic record, New Medical College Admission Test (MCAT) scores, personal statement, letters of recommendation, and results of personal interviews. Consideration of the academic record includes not only grades, but trends in the grade point average, course loads, whether or not the student worked while going to school, the extent of extracurricular interests and pursuits, and any other factor which might directly or indirectly influence the individual’s total academic performance. The New MCAT scores provide a national comparison of each student with all those seeking admission to medical school. Applicants are asked to have letters of recommendation submitted from either a Premedical Committee at their university or from three individual faculty members. If individual letters are submitted, they should be from two science faculty members and one nonscience. All must be from professors under whom you have taken courses. The four personal interviews are conducted on a one-to-one basis, each applicant seeing three faculty members in three separate interviews and one practicing physician. The interviewers are asked to evaluate the person’s ability to relate to another individual in the interview situation and to ascertain from the interview their impression of the applicant’s overall desirability as a future physician. The interviewers also attempt to gain some insight into the applicant’s family background, outside interests, and the duration and depth of interest in medicine. The interviewers have no prior information about the applicant and forward their impressions to the Admissions Committee which has access to all other data.

The Admissions Committee then reviews the entire applicant pool. All facets of the record
are considered. The amount of consideration given to the academic record, New MCAT scores, personal statement, letters of recommendation and results of the personal interviews depends on each individual on the Committee. Each member of the Admissions Committee votes after a review of each person's complete file, and the combined vote of the Committee determines who is accepted. Acceptances are based on the impression of all members of the Admissions Committee regarding each applicant and the relationship of each applicant to every other. In this way, an attempt is made to be as fair as possible to all persons applying to medical school by utilizing all the information available to the Committee.

The Committee selects sufficient applicants for acceptance to fill the class, as well as a reasonable number to be placed on the Alternate List. All other applicants are notified that their applications are not competitive and, therefore, they are no longer under consideration.

Rural Arizonans

Special consideration will be given to individuals who have lived half their lives in small Arizona communities outside the state's major metropolitan areas and who desire to return to such an area to practice medicine. A form for use in requesting this special consideration will be included with the supplementary materials.

Admission by Transfer

Applications for transfer to the College of Medicine are welcomed from students who satisfy the conditions outlined below. Applicants are treated as competitors for any available places. Positions only become available through attrition.
1. Applications will be considered from residents of the several states in the following order of preference:
   a) Arizona residents matriculated in foreign medical schools (WHO-listed) or two-year U.S. medical schools.
   b) Residents of Alaska, Montana and Wyoming (who are WICHE certified) matriculated in foreign medical schools (WHO-listed) or two-year U.S. medical schools.
   c) Arizona residents matriculated in four-year U.S. medical schools or U.S. schools of osteopathy.

2. Applicants must meet the following academic criteria:
   a) Must have successfully completed a minimum of three full years of premedical study (90 semester units or 135 quarter units) at an accredited college or university, with 30 units at the upper division level.
   b) Must have successfully completed two full semesters (or three quarters) in each of the following areas: general chemistry, organic chemistry, physics, general biology or zoology, and English.
   c) Must have taken the old or New MCAT.
   d) Must provide evidence (official transcripts or original boletos) of having successfully completed a course of study, in medical school, which subsumes the content of the courses listed: anatomy, biochemistry, histology, microbiology, pathology, pharmacology, physiology, and behavioral sciences.
   e) Must have adequate training in history-taking and physical examination; if not, the applicant, at the discretion of the Admissions Committee, will be required to participate in a specially prepared course of study in these areas.
   f) Must take the June administration of the MSKP Examination (application deadline is April 1). Transfer applicants who are enrolled in LCME accredited medical schools may substitute NBME, Part I. Please see page 20 for address.
   g) Must have completed at least two years as a matriculant in a recognized U.S. or WHO-listed Medical School. Applicants who are on official leave of absence of not more than one year will be considered.

3. Applicants whose credentials indicate deficiencies in other areas of study covered during our basic science curriculum will learn this content through self-study and will be expected to perform at the same level as the students who completed the first 2 years at the University of Arizona College of Medicine.

4. All accepted transfers will be required to pass Parts I and II of National Boards in order to graduate. This is a policy of the College of Medicine.

5. All applicants who meet the above criteria and are under consideration must be interviewed.

6. Applicants should have letters of recommendation sent to the Admissions Office from professors from whom they have taken courses or physicians under whom they have done clerkships or externships. Three letters are required. If attending a U.S. medical school, a letter from the Dean of the school is required.

7. Applicants are advised that, if accepted, they will enter into the third year of our program and will be required to complete all of the last two years of our curriculum.

8. All applicants must apply directly to the University of Arizona College of Medicine. Deadline for receipt of transfer application is March 30th.

*Participation in Supervised Clinical Experience*

*(Fifth Pathway)*

Individuals who are presently and were Arizona residents at the time of their initial application to medical school and are currently attending a medical school located outside of the U.S., Puerto Rico and Canada are invited to apply for admission as participants in the Fifth Pathway Program here at the College of Medicine. This program consists of 48 weeks of
required clerkships which will include twelve weeks of internal medicine, nine weeks of surgery and six weeks of each of the following: pediatrics, obstetrics-gynecology, psychiatry, family medicine; and three weeks of neurology.

Successful completion of the program will be measured by the guidelines and evaluation procedures used for our students (see section on Student Progress). Participants successfully completing the program will receive a letter from the Dean of the College of Medicine recognizing this achievement.

Applicants for admission to this program must meet the following criteria:

1. Currently be, and have been at the time of entrance into the foreign medical school, a resident of Arizona.
2. Have successfully completed all of the formal requirements of the foreign medical school except internship and/or social service.
3. Have successfully completed, in an accredited American college or university, the minimum undergraduate premedical work of the quality required of all students entering the University of Arizona College of Medicine. These are:
   a) Successful completion of three full years of study at an accredited college or university, including 30 semester hours (45 quarter hours) which must be upper division. This is considered equivalent to 90 semester hours or 135 quarter hours.
   b) Successful completion of two full semesters (or three quarters) in each of the following areas: general chemistry, organic chemistry, physics, general biology or zoology, and English.
4. Have taken the Educational Commission for Foreign Medical Graduates (ECFMG) examination (address on page 20). Preference will be given to those who have achieved a passing score (75).
5. Be interviewed at the Arizona Health Sciences Center.
6. Provide MCAT scores.
7. Although the MSKP examinations are not required, the results may be taken into consideration by the Admissions Committee.
8. Provide letters of evaluation from any clinical experience during the last two years of medical school.
Selected participants will begin classes as close to July 1, 1982 and January 1, 1983 as possible, but may start at other times under special arrangement.

List of Important Addresses

University of Arizona College of Medicine
Tucson, Arizona 85724
Admissions Office 626-6214 or 6215
Student Affairs 626-6216

Association of American Medical Colleges (AAMC)
One Dupont Circle, N.W.
Washington, D.C. 20036

American Medical College Application Service (AMCAS)
1776 Massachusetts Avenue, N.W.
Washington, D.C. 20036

National Board of Medical Examiners (NBME)
3930 Chestnut Street
Philadelphia, Pennsylvania 19104

New Medical College Admission Test (MCAT) co
American College Testing Program
Box 414
Iowa City, Iowa 52243

Educational Commission for Foreign Medical Graduates (ECFMG)
3624 Market Street
Philadelphia, Pennsylvania 19104

Medical Sciences Knowledge Profile (MSKP)
Association of American Medical Colleges
1776 Massachusetts Avenue - Suite 301
Washington, D.C. 20036-1989
STUDENT AFFAIRS

Orientation

Orientation occurs on the day prior to the start of classes. Its purpose is to acquaint the student with classmates, upperclassmen, members of the administration, faculty and staff. Activities will include registration and the procedural matters related to enrollment. Information and schedules of activities are sent to entering students during the preceding spring and summer.

Housing

Medical students must assume the responsibility for making their own living arrangements. However, assistance in finding accommodations in University housing is available from the Director of Student Housing. Rooms in the University residence halls are available for unmarried students on a space available basis, according to date of application, through the Department of Student Housing.

Married students may apply for a unit at the University of Arizona’s Family Housing Project. The project consists of 420 one-story apartments, either furnished or unfurnished, located in northeast Tucson about fifteen minutes’ drive from the Health Sciences Center. Students may have their names placed on the waiting list immediately after being accepted by the College of Medicine. Further information concerning these married student rental units
may be obtained by contacting the Family Housing Office, University of Arizona, 3401 North Columbus Boulevard, Tucson, Arizona, 85712.

For additional information relevant to housing, consult the two daily Tucson newspapers and the daily student newspaper. The Associated Students' Office in the Student Union Memorial also maintains a list of available housing.

**Student Health Service**

All students matriculated in the College of Medicine are eligible for care at the University of Arizona Student Health Service. If an illness requires other than routine care, or the services of an outside physician or consultant (major injury, complicated medical illness, major fractures or extraordinary services), the cost of such services must be borne by the student. For this reason, some form of health insurance is strongly advised. Such supplemental insurance may be purchased at the time of registration. For a more complete description of the services available at the Student Health Center, the student is advised to consult the *General Catalog* of the University.

Students enrolled in the College of Medicine are required to submit proof of a tuberculosis skin test within six months of admission. Thereafter, repeat chest x-rays and skin tests will be done when deemed appropriate. Certain types of vaccinations also will be available to students. In all instances, these tests will be provided by the Student Health Service and their cost will be borne by each student involved.

**The Code of Scholastic Conduct**

Students who enter the College of Medicine find themselves in the company of scholars, each of whom is working to deepen his or her own knowledge, to extend the boundaries of human knowledge, and to apply knowledge in service to fellowman. The faculty and students of the College of Medicine require that a man or woman shall act honorably in all the relations and phases of student life and, therefore, all work is conducted under an honor system. The essence of the system is that a student’s word can be accepted without question as to truth and any violation of a student’s word is an offense against the entire student body. The fundamental demand that the honor system makes on the individual is that each one resist less than honorable means to attain a desired end. The honor system is not an end in itself but is a framework for behavior and a means of inculcating a spirit of integrity which should sustain the student throughout his or her lifetime.

All scholastic behavior in the College of Medicine is regulated by a Code of Scholastic Conduct. Each accepted student, before matriculating, is required to read and sign a statement that he/she will abide by the Code. The Code of Scholastic Conduct shall be read to all entering students at Orientation.

**Counseling and Advising**

The Office of Student Affairs coordinates the advising and counseling functions for medical students. Students may request faculty advisors when they enter medical school and will have career advisors available to work with them throughout their medical school training. These advisors help students with academic decisions, provide guidance about professional behavior and career choices and, in general, help the student in the process of becoming a physician. In addition to advisors, counseling about academic, personal and career problems is available to students through the Office of Student Affairs.
Student Representatives

Students may actively participate in the College of Medicine affairs in a number of important and constructive ways. On a formal level, each class elects two representatives who are members of the College of Medicine Student Council. All other elected student representatives to other committees are also members of this body. This group meets regularly with the Dean's staff to discuss issues of mutual concern. In addition, the Medical Student Council supervises the selection of student representatives to various faculty-student committees. Examples of these are the Curriculum Committee, Student Progress Committee, Committee of Nine, Honors and Awards Committee, and various subcommittees of these. A number of departments actively seek student representation for various departmental decision-making and advisory groups.

The formal election of representatives in no way prevents a student from discussing with any member of the faculty or administration issues of concern to that student. All students are encouraged to participate in college affairs to the extent of their time, interest and inclination.
FINANCIAL INFORMATION

Expenses

In considering the cost of attending medical school, the student must take into account not only educational expenditures but also subsistence and personal obligations such as dependents. Basic yearly costs for a single student are approximately:

<table>
<thead>
<tr>
<th></th>
<th>4-year Curriculum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition and fees*</td>
<td></td>
</tr>
<tr>
<td>resident</td>
<td>$2,435</td>
</tr>
<tr>
<td>nonresident</td>
<td>5,502</td>
</tr>
<tr>
<td>Books and Supplies (microscopes provided)</td>
<td>800</td>
</tr>
<tr>
<td>Room and Board (estimated)</td>
<td>3,900</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>2,700</td>
</tr>
<tr>
<td>(including transportation, etc.)</td>
<td></td>
</tr>
<tr>
<td>Approximate totals:</td>
<td></td>
</tr>
<tr>
<td>resident</td>
<td>9,835</td>
</tr>
<tr>
<td>nonresident</td>
<td>12,900</td>
</tr>
<tr>
<td>*Subject to change</td>
<td></td>
</tr>
</tbody>
</table>

Financial Assistance

The College of Medicine is fortunate in that many individuals and organizations have contributed scholarship and loan funds specifically designated for medical students. Among the many persons and organizations to whom we owe our sincere thanks are:

SCHOLARSHIPS

Robert F. Allen Memorial Award in Cancer
Arizona Medical Association Scholarship Program
Associates in Laboratory Medicine, P.C. Scholarship
Dr. Henry G. Atha and Grace L. M. Atha Memorial Scholarship
Nelson C. Bledsoe Scholarship
Earl Bluestein Scholarship Fund
Louis Cobb Memorial Scholarship
Coconino County Medical Society Scholarship
Joseph Collins Memorial Scholarship
Anne Babbitt Cordasco, M.D., Memorial Scholarship
Herman E. Demund Memorial Scholarship
Duncan Dietrich Medical Scholarship
Eddie and Madelyn Earl Memorial Scholarship
Leon and Helen Feinberg Scholarship
Nicholas W. Genematas Foundation Scholarship
Howard Melville Hanna Memorial Scholarship
The Haskell Book Scholarship
Dr. Cruz M. Hernandez Scholarship Fund
Josephine Madara Memorial Scholarship
Dr. Ruth Mahnken Memorial Fund
Marshall Foundation for Arizona Women
George Martin Memorial Scholarship
Salvador Mazza Scholarship
Fred C. McCormick Scholarship
Medical Alumni Fund
Medical Student Relief Fund
Metzger Scholarship Fund
National Hispanic Scholarship Fund
National Medical Fellowships, Inc.
John A. Mulcahy Scholarship
John A. Noon Medical Scholarship
Otitis Media Scholarship
Dr. George D. Reay Memorial Scholarship
Duncan Reid Memorial Scholarship
Francis A. Roy and Dorothy Roy Memorial Scholarship in Medicine
M.A. and Greta Schuele Scholarship
Delbert L. Secrist, Sr., Memorial Scholarship
Bernice P. Simon Memorial Scholarship
Mary Woodman Smith Memorial Scholarship in Medicine
George F. Spaulding Scholarship
Special Assistance Fund-College of Medicine
Special Medical Student Scholarship for Minorities
Carla and Oliver Springer Scholarship Fund
Hans and Julia Voight Memorial Scholarship
Dr. Samuel Humes Watson Medical Scholarship
Clara Seippel Webster Memorial Scholarship
Alma L. Wilson Memorial Scholarship
Dr. Boris Zemsky Memorial Fund-Psychiatry
A number of other scholarships have been donated anonymously.

LOANS

State of Arizona Medical Student Loans
Arizona Medical Association Auxiliary Loan Fund
Josephine F. Bennett Foundation Loan Fund
College of Medicine Emergency Loan Fund
Dr. Paul S. Gaddis Memorial Loan Fund
Health Professions Student Loan Fund
Elizabeth Banes Mann Loan Fund
Marshall Revolving Loan Fund
Charles W. Sechrist Loan Fund
University Hospital Auxiliary Student Assistance Fund
Roy Whitehead Memorial Fund

AWARDS

American Medical Women's Association Awards
Arizona Foundation Award
The Arizona Medical Association Prize
The Arizona Medical Association Travel Awards
Bernard Revisin Memorial Scholarship Award
Brayton Memorial Family Practice Award
Marshall Brucer Award in Radiation Medicine
Ciba Award for Community Service
The Roy Killingsworth Award for Psychiatry
Grobe Award in Family Practice
Robert Wood Johnson Health Policy Fellowships
The Alvin T. Kirmse Memorial Prize in Obstetrics
Mosby-Lange Book Awards
Upjohn Award

Allocations of financial assistance are made solely on the basis of need and according to the availability of funds with the exception of several awards which are given for academic achievement. Only those students whose personal savings, earnings, and aid from family sources are inadequate to meet their needs can be considered for financial assistance. Such determinations are made only after an applicant has been accepted to the College of Medicine.

Generally, the resources of the College of Medicine are insufficient to meet the total needs of the students. Outside sources must then be employed. Additional loans are available to Arizona medical students through Federally Insured Loans, which are processed by local banks, and through Health Education Assistant Loans, Arizona Student Loan Program, American Medical Student Association, and National Association of Residents and Interns. The National Health Service Corps as well as the Army, Navy and Air Force offer financial assistance in return for service commitments. Applications may be obtained from the Student Financial Aid Office of the College of Medicine.

For emergency situations, special short-term loans can be obtained from the Student Financial Aid Office.
STUDENT PROGRESS

General

Student progress, in its broadest sense, includes not only the system used to evaluate academic performance, but also the guidelines for academic and nonacademic performance, the procedures used to monitor student progress, as well as the structure of student counseling and advising systems. The faculty and administration of the College of Medicine continually review all of these aspects of student progress. From these reviews over the years, several basic features have become apparent. First, the grading and evaluation system should be fair and informative to both faculty and students and should minimize competition between students while encouraging the acquisition of skills and knowledge. Second, it is essential to identify, as early as possible, those students with potential academic or nonacademic problems and to provide appropriate constructive remedies. Third, mechanisms must be available to insure that only qualified candidates receive the M.D. degree. Finally, it is necessary to provide a fair and impartial method of appeal for those students against whom there is adverse action for academic or nonacademic reasons. Within this broad framework, information pertaining to each area is set forth below. This information represents a compilation from several source documents, which are on file and may be reviewed in the Dean’s Office.

Evaluation System

The College of Medicine utilizes an Honors-Pass-Fail grading system augmented by narrative evaluations of student performance in each medical school course. Specific grades that may be awarded include:

S = Honors; High performance based on individual course standards
P = Pass; Satisfactory completion of course
F = Fail; Unsatisfactory completion of course
I = Incomplete; awarded at the end of a course when a small portion of a student’s work is incomplete and when the student would be required to complete only that portion to earn a passing grade. This grade reverts to a Fail if not completed within one year.
W = Approved withdrawal
K = Course in progress

Prior to a specified time, which is approximately one-third of the way through each course, or ten days after the mid-term examination, a student will receive the grade of W, upon withdrawing from a course. After this time, however, the grade of W may be awarded only if the work is at a passing level; otherwise, the grade of F is recorded.

Any student whose performance is marginal, or failing at any point during a course, will be so notified in writing. The notification is intended to alert the student of potential problems and to encourage the use of tutorial or other appropriate assistance.

Written, narrative evaluations for each student are submitted to the Student Records Office at the conclusion of each course, along with the specific grade. These detail individual strengths and weaknesses of performance and are intended to provide feedback to the student, data for the Student Progress Committee and information for the Dean’s letters of recommenda-
tion. All students may request to see their own evaluations by contacting the personnel in the Student Records Office. Any student with questions about an evaluation may contact the course coordinator directly or consult with the Associate Dean for Student Affairs.

Under this system, no attempt is made to determine class standing. However, the College of Medicine Honors and Awards Committee reviews all written evaluations in order to identify outstanding student performance. Students so selected may receive an award at graduation and may be elected to Alpha Omega Alpha, the medical honor society.

**Student Progress Guidelines**

The Student Progress Committee is given the responsibility to monitor and evaluate student performance and to make decisions appropriate to each individual case. This committee consists of eight elected faculty members and one student from each class. The Committee is charged with reviewing the record of each student at least once each year. The purpose of such a review is: first, to identify performance problems sufficiently early in order to recommend appropriate action for the prevention of future problems and, second, to recommend actions for those who fail a course (or courses).

The academic guidelines utilized by the Student Progress Committee include the following:

1. To be academically qualified for graduation, a student must pass all required courses and the requisite number of elective courses, as well as Part I and Part II of the National Board of Medical Examiners examination.
2. Continued enrollment in the College shall be contingent on satisfactory academic performance as defined below.
3. The Student Progress Committee shall order dismissal in any case where a student fails one course for a second time or where a student fails three (or more) courses in medical school. A failure will be counted as such even if the student has subsequently passed the course.
4. In cases where a student fails a course not requiring an order of dismissal, the Student Progress Committee may recommend whatever action is deemed appropriate to the particular situation, including dismissal, although the latter would occur only under exceptional circumstances.
5. Transfer students. In the case of students who transfer to the College of Medicine for the Clinical Sciences portion of the curriculum, the Student Progress Committee shall order dismissal in any case when a student fails one course for the second time or when a student fails two (or more) courses in medical school. (For purposes of this paragraph, a failure will be counted as such even if the student has subsequently passed the course.) Failures incurred prior to transfer will not be considered. Other academic guidelines apply, unaltered, to transfer students.
6. Fifth Pathway participants. The Student Progress Committee shall order dismissal in any case when a participant fails one course for a second time or when a participant fails two (or more) courses in the curriculum. (For purposes of this paragraph, a failure will be counted as such even if the participant has subsequently passed the course.) Failures incurred prior to participation in the Fifth Pathway Program will not be considered. Other Student Progress Committee guidelines apply, unaltered, to Fifth Pathway participants.

There are certain time constraints on student progress, although these are intended to be sufficiently flexible to accommodate those students who choose to take advantage of educational experiences beyond the confines of the curriculum. These time constraints are as follows:

1. An entering student will normally use two years to complete the work in the basic sciences. Extended courses of study will be reviewed by the Student Progress Committee.
2. Students will normally be expected to register for a full course load. A student may
schedule up to 12 weeks of free time during the clinical sciences.

(3) Students desiring more or longer periods away from school may petition the Student Progress Committee for a formal leave of absence. Such leaves shall normally not exceed one year.

(4) Students may take electives, for which they meet the prerequisites, prior to completion of the basic science years. However, these electives may be used to fulfill clinical science or elective requirements for graduation only with prior permission of the Curriculum Committee.

In addition to academic factors, satisfactory student progress also includes other factors. Those which may be considered as disqualifying for the M.D. degree include:

(1) Chronic, disabling physical or emotional illness
(2) Unethical conduct
(3) Dishonest scholastic work (see The Code of Scholastic Conduct, page 22).

Other factors may be considered if, in the opinion of the Student Progress Committee, they would make it inappropriate to award the M.D. degree.

Appeals

Any student has the right to appeal an adverse decision of the Student Progress Committee to a separate faculty body, the Student Appeals Committee. This group consists of one elected representative from each academic department in the College. The student may present to this Committee any information deemed pertinent to the case. The Student Appeals Committee will review charges, hear evidence, and consider mitigating circumstances before rendering a decision. Such decisions may affirm, modify or reverse the original action of the Student Progress Committee, although the penalty, if any, may not be increased. Such decisions are binding within the College and may not be appealed further at that level.

Advisory Council

The Advisory Council of the University, upon recommendation of the Dean of the College of Medicine, reserves the right to suspend, enforce the withdrawal of, or expel a student whose academic standing or conduct is, in its judgment, unsatisfactory. The student is also subject to all other University rules and regulations.
KEY TO COURSE LISTINGS

Most medical students will find that registration in medical school is a relatively simple process. The basic curriculum for medical students is outlined on pages 12-13. However, for the information of the faculty and others concerned with scheduling and course numbering, this section explains the course numbering system used in the College of Medicine.

This catalog contains listings of courses offered by College of Medicine departments for advanced undergraduates and graduate students as well as courses offered for medical students. The number by which a course is designated indicates the level of the course.

**Courses numbered:**
- 400-499 inclusive: Advanced-level courses. Acceptable for graduate credit with the prior approval of the Graduate College.
- 500-599 inclusive: Graduate courses. Open to exceptionally well qualified seniors with the prior written approval of the course instructor and the Graduate College.
- 600-699 inclusive: Graduate courses. Not open to undergraduate students.
- 700-799 inclusive: Graduate courses limited to doctoral students.
- 800-899 inclusive: Medical courses limited to students working toward the M.D. degree and not available for credit toward any other degree.

The following is a list of definitions of the University-wide "house-numbered" courses available to the College of Medicine departments as well as other departments throughout the University.

**Colloquium (courses numbered 495, 595, 695, 795, 895):** The exchange of scholarly information and/or secondary research, usually in a small group setting. The exchange of ideas may involve written as well as oral communication. Research projects need not be required of course registrants.

**Proseminar (496) and Seminar (courses numbered 596, 696, 796, 896):** The development and exchange of scholarly information, usually in a small group setting. The scope of work shall consist of research by course registrants, with the exchange of the results of such research through discussion, reports, and/or papers.

**Note:** The above listing does not include all "house-numbered" courses, as other "house-numbered" courses are generally not used by the College of Medicine. For further information regarding these listings, please refer to the current University of Arizona General Catalog.

The definitions listed below are general categories of courses offered within the College of Medicine.

**Clinical Clerkship (803):** Closely supervised clinical activities designed to teach basic clinical skills within a discipline to Year III medical students.

**Specialty Clerkship (807):** Introduction to clinical surgery through exposure to a surgery Specialty Clerkship (as assigned by the Surgery Department). Requirement can also be met by taking 9 weeks of Surgery 803. (Please note: this course applies to the Department of Surgery only).

**Clerkship (810):** Elective courses designed to develop and refine the clinical skills of medical students. Often allow the opportunity to apply basic skills in a new location or to a special population while continuing to focus on the broad objectives of a discipline.

**Subspecialty (815):** Electives allowing advanced medical students the opportunity to explore subspecialty areas within a department.

**Preceptorship (891):** Specialized advanced work on an individual basis, consisting of instruction and practice in actual service in a department, program or discipline.
Independent Study (599, 799, 899): Qualified students work on an individual basis with professors who have agreed to supervise such work.

Research (800/900): Individual research by medical (800) or graduate (900) students, not related to a thesis or dissertation.

Thesis (910): Research for the master's thesis (whether library research, laboratory or field observation or research, artistic creation, or thesis writing).

Dissertation (920): Research for the doctoral dissertation (whether library research, laboratory or field observation or research, artistic creation, or dissertation writing.)

Supplementary Registration (930): For students who have completed all course requirements for their advanced degree programs. May be used concurrently with other enrollments to bring the total number of units to the required minimum.

Key to Symbols

The standard course description includes a variety of symbols indicative of essential information. The following is a standard course description with the individual symbols explained in the order in which they appear in that description.

401. Ethics of Medicine (3) [Rpt.] GC I, II, 1982-1983, Yr. Jones
A review of current topics pertaining to the ethics of medicine. P, Medicine 400 or CR. (Identical with Family and Community Medicine 401). See Electives Manual for course description

401 ......................... Number of course.
Ethics of Medicine ...... Title of course.
(3) ......................... Number of units of course
[Rpt] ....................... May be repeated for credit. A restriction regarding the number of times a course may be repeated for credit or the total number of units of credit permitted for a course may be designated. [Rpt./2] indicates that the course may be repeated for credit a maximum of two times; [Rpt./6 units] means that the course may be repeated until the student has received a total of six units of credit.

GC ......................... Graduate credit available. Applies to 400 level courses only.
I, II ....................... Semester offered. I indicates fall semester; II, spring semester.
1982-1983 .................. Year in which course is offered. If no year designation is given, the course is offered each year.

Yr .......................... Course offered throughout the year for various lengths of time other than semester(s).
Jones ...................... Professor in charge of course. If "Staff" is is listed, then the departmental staff is in charge of the course.

A review of current topics pertaining to the ethics of medicine. Description of course
P ......................... Prerequisite(s).
CR ........................ Concurrent Registration (Identical with Family and Community Medicine 401). Other departments which give credit in their department for the same course. If no course description appears, please consult the crosslisted department.

See Electives Manual for course description...An in-house publication which lists course offerings for Year III and Year IV classes.

Note: Not all of the above information may be noted in any individual course.
INTERDEPARTMENTAL COURSES

495. Colloquium (2-4)  
a. Introduction to the Neurosciences I (2) GC  
Staff
An introductory overview of mammalian neural structure and function. Neuroanatomical and neurophysiological principles are emphasized. P, permission of instructor. (Identical with Anat. 495a and Psio. 495a).
b. Introduction to the Neurosciences II (2) GC  
Staff
An introductory overview of clinical conditions that affect the human nervous system. P, 495a or permission of the instructor. (Identical with Neur. 495b, Psio. 495b and Psyi. 495b).

596/896. Seminar (1-3) Yr. (See Electives Manual)  
Staff
These seminars are designed principally for medical students during the elective portion of their curriculum. Basic biological or behavioral science principles and their application in the medical setting are emphasized, with student participation in discussion and group leadership encouraged. Seminars may be combined with other part-time clinical or nonclinical electives to constitute a full-time academic load. See Electives Manual available in the Student Records Office, College of Medicine, for specific course titles, numbers, prerequisites, and descriptions.

801. Preparation for Clinical Medicine (PCM) (1-12) I, II  
Stillman-Staff
Preparation for Clinical Medicine (PCM) is the clinical companion course to the basic sciences. The course begins the first week of medical school and continues until the beginning of the first clinical rotation. The overall objective is to provide students with skills, behavioral traits, attitudes and knowledge necessary to enter clinical clerkships. PCM is divided into three main course segments: 1. Patient evaluation, including physical examination, clinical interviewing, specialty examinations and write-ups. During this segment students interact with patient instructors and also spend one semester interacting with a physician preceptor. 2. Clinical correlations (clinical problem solving) with basic sciences courses, and 3. Free-standing course segments, including introduction to psychiatry and psychopathology, clinical decision making (biostatistics and logic), community based medical practice, emergency medicine, introduction to nuclear medicine, patient care skills workshop and radiology practicum. At the completion of PCM, students will have achieved a prescribed level of skill in data collection, definition of clinical problems and a logical approach to differential diagnosis.

802. Human Behavior and Development (HB&D) (6)  
Fahey-Pollock-Staff
This course provides an integrated framework through which the student may better understand the relationships between biological, environmental, social and psychological factors as they influence the total person in the role as a patient. Also explored is the physician-patient relationship, ethical and legal issues in medical practice. Panel discussions, lectures, patient interviews, field trips, etc., are utilized in the interdisciplinary course to achieve these objectives.
DEPARTMENTAL COURSES

ANATOMY

Professors: Bryant Benson, Head, Jay B. Angevine, Jr., Associate Head, C. Donald Christian [Obstetrics & Gynecology], Philip H. Kutzsch

Associate Professors: C. Ward Kischer, Albert V. LeBouton, Bruce E. Magun

Assistant Professors: David E. Blask, Mary J. C. Hendrix

Lecturers: William D. Barber, Norman E. Koelling

Adjunct Professor: James C. Dunn

Adjunct Associate Professor: Hayes Caldwell

Adjunct Assistant Professors: Russell G. Carey, Hsien-Jen J. Chen, Brent R. Larsen, Stephen R. Planck, Elizabeth G. Richardson, Joseph M. Sorrentino

Research Associate: Bruce Persky

Associate: Harry R. Claypool [Radiology]

Anatomy has central responsibility for the presentation and study of morphological systems. Its contributions occur at the gross, microscopic, and ultrastructural levels and have exerted strong influence on many areas of biology and medicine over the years. This discipline has established fundamental facts and methods supporting modern concepts of human biology. It is the desire and purpose of the Department of Anatomy to express a meaningful picture of the discipline and its relationship to the synthesis of chemical, physical, and biological facts in a challenging and responsible program basic for continued growth and application by the developing physician.

The Department of Anatomy offers a program of graduate study which leads primarily to the Doctor of Philosophy degree; a degree of Master of Science is awarded only in rare instances. The requirements for these degrees are those outlined by the Graduate College. Candidates for graduate work in anatomy are expected to possess a significant knowledge of
mathematics and the physical sciences, as well as of biology, in order to meet the demands of a growing discipline. Course work and research possibilities span the continuum of morphological investigation from ultrastructure (electron microscopy) to gross human structure. In conjunction, graduate study in anatomy offers the candidate an opportunity to learn such skills and techniques as cytochemistry, histochemistry, histophysiology, endocrinology, cytogenetics, embryology, radioisotope biology, comparative neuroanatomy, and so on. A large number of possibilities exist regarding the minor subject in the doctoral program. Departmental facilities include chemical and physical analytical equipment, electron and optical microscopes, and extensive tissue preparation equipment.

For detailed information concerning graduate programs in the Department of Anatomy, consult the catalog of the Graduate College.

Course Descriptions

495. Colloquium  
   a. Introduction to the Neurosciences I (2) GC  
      Staff  
      An introductory overview of mammalian neural structure and function. Neuroanatomical and  
      neurophysiological principles are emphasized. P, permission of instructor. (Identical with  
      Interdept. 495a, which is home)

555. Cancer Biology (3) II  
      (Identical with M. Micro 555, which is home)  
      Bowden-Gerner-Magun

601. Human Gross Anatomy (8) I  
      Magun-Staff  
      Comprehensive survey of the development and gross structure of the human body. P, Chem. 103b,  
      104b, 243b, 245b; Physics 102b; G. Bio. 101b.

602. Microscopic Anatomy (5) I  
      Benson-Staff  
      Essentials of microscopic human anatomy. P, Chem. 103b, 104b, 243b, 245b; Physics 102b; G.  
      Bio. 101b, and permission of department.

605. Neurosciences (6) II  
      Barber-Angelvine-Stuart  
      Essentials of mammalian neural development, structure and function. P, Chem. 103b, 104b, 243b,  
      245b; Physics 102b; G. Bio. 101b; Cell. 410. (Ident. with Physiology 605.)

801. Human Gross Anatomy (1–7*) I  
      Staff  
      See 601 description.  
      *No grade will be given until the student has completed the full seven units of the course.

802. Microscopic Anatomy (5) I  
      Benson-Staff  
      See 602 description.

805. Neurosciences (6)  
      Barber-Stuart  
      See 605 description. (Taught in conjunction with Physiology 605.)

896. Seminar (1–6) I, II  
      Staff  

899. Independent Study (1–6) I, II  
      Staff  
      See Electives Manual for course description.

Courses Primarily for Graduate Students

599. Independent Study (1–6) I, II  
      Staff  
      Individual or independent work, directed reading, or special problems under the supervision of a  
      member of the faculty.

603. Microscopic Structure (1–3) II  
      Staff  
      Selected concepts of structural organization at light and electron microscopic levels of the anatomy  
      and development of the cells, tissues and organs of vertebrates. P, 601, 602.

604. Gross Human Anatomy (2–6) [Rpt.] II  
      Krutzsch-Staff  
      Study in depth of the gross human anatomy of selected areas or systems. P, 601, 602.

606. Advanced Vertebrate Neuroanatomy (4) I, II  
      Angervine  
      Structure of the central nervous system in selected vertebrates. P, 605.

610a-610b. Anatomical Techniques (1–4, 1–4) I, II  
      LeBouton-Staff  
      Introduction of special techniques and procedures of analytical anatomy. P, 601, 602, and consent  
      of department.
616. **Introduction to Anatomical Literature (1) I, II**
   A problem-oriented, bibliographic approach to basic anatomical references. Primarily for those students planning a career in anatomy and wishing to prepare themselves for further graduate study. 3L.

696. **Seminar (1) II**
   b. Biological, Structural and Functional Interactions. [Rpt./4]. Open to majors only. P, Chem. 103b, 104b, 243b, 245b; Phys. 102b; G. Bio. 101b.

900. **Research (1–8) I, II**
   Individual research not related to a thesis or dissertation for an advanced degree.

910. **Thesis (1–8) I, II**
   Research for the master’s thesis.

920. **Dissertation (1–9) I, II**
   Research for the doctoral dissertation.

930. **Supplementary Registration (1–6) I, II**

**ANESTHESIOLOGY**

Professors: Burnell R. Brown, Jr., *Head*, Casey D. Blitt, Robert W. Vaughan, *Associate Head*
Associate Professors: R. Dennis Bastron, I. Glenn Sipes
Assistant Professors: John B. Bentley, Jerry M. Calkins, Thomas J. Conahan, III, Randall C. Cork, John H. Finley, Stuart R. Hameroff, Charles W. Otto
Lecturers: Reynolds J. Saunders, H. Burton Walker
Adjunct Associate Professor: Kenneth C. Mylrea [Associate Professor, Electrical Engineering]
Visiting Research Associate: Heinrich W. Militzer
Research Associates: Allen J. Gandolfi, Warren R. Jewett

Pain Counselor: Bryl R. Crago

The Department of Anesthesiology provides the clinical clerks with theoretic and practical instruction in the following areas: 1) management of surgical and obstetric anesthesia; 2) acute clinical pharmacology and physiology; 3) resuscitation and management of the comatose patient; 4) treatment of intractable pain; 5) management of the patient in the intensive care unit. The concepts taught are germane to acute therapy and catastrophic illness that may be encountered by the future physician regardless of field of practice.

**Course Descriptions**

800. **Research (1–6) [Rpt./1] Yr.**
   See Electives Manual for course description.

810. **Clerkship (1–18) Yr.**
   a. Anesthesiology
      Students participate in anesthesiology at University Hospital and Veterans Administration Medical Center.

815. **Subspecialty (1–18) Yr.**
   p. Critical Care Medicine (1–18) Yr.  
      (Identical with I. Med. 815p.)
      See Electives Manual for course description.

891. **Preceptorship (1–18) Yr.**
   a. Anesthesiology and Subspecialties
   b. Special Clinical Subjects
   c. ASA-Sponsored Preceptorships
      See Electives Manual for course description.
UNIVERSITY DEPARTMENT OF BIOCHEMISTRY
(COLLEGES OF AGRICULTURE, LIBERAL ARTS, AND MEDICINE)


Associate Professors: Don P. Bourque, William J. Grimes, F. Raymond Salemme

Assistant Professors: Nancy W. Downer, John W. Little, Larry A. McReynolds, Marc E. Tischler, Howard D. White

Visiting Professor: Carl S. Vestling


Research in biochemistry is carried out principally in Biosciences West and Arizona Health Sciences Center, while teaching in carried out at various campus locations. The above listed faculty members constitute the University Department of Biochemistry, which is responsible for instruction in biochemistry in the Colleges of Agriculture, Liberal Arts, and Medicine.

The University Department of Biochemistry offers the Bachelor of Science, Bachelor of Arts, Master of Science and Doctor of Philosophy degrees. Except in unusual circumstances, however, the Department will only admit graduate students whose stated objective is the Doctor of Philosophy degree.

Research areas in which graduate studies may be pursued include nucleic acid biochemistry, regulation of gene expression, enzymology, lipid metabolism and chemistry, membrane structure and function, amino acid metabolism, complex polysaccharides, mammalian cell culture, mechanism of hormone action, biochemistry of vitamins and coenzymes, protein structure and function, bioenergetics, muscle metabolism, biological oxidations, photosynthesis, rapid reaction kinetics, visual processes, plant biochemistry, biochemistry and genetics of cell organelles, insect biochemistry.

For detailed information, consult the catalog of the Graduate College.

Course Descriptions

460. General Biochemistry (4 to 5) GC I
Staff
Fundamentals of biochemistry, including proteins, nucleic acids, enzymes, carbohydrates and their metabolic relationships. Five unit option includes additional lectures relevant to mammalian biochemistry. Open to non-majors only. P, Chem. 241b. (Identical with Chem. 460.)

462a-462b. Biochemistry (3-3) GC I, II
Staff
An introduction to the properties and metabolism of proteins, nucleic acids, enzymes, carbohydrates and lipids. Designed primarily for majors and minors in chemistry and biochemistry. P, Chem. 241b, 325, 480b (Ident. with Chem. 462a-462b and Tox. 462a-462b.)

463. Biochemistry Laboratory (2) GC II
Staff
Introduction to experimentation with biochemical systems, processes, and compounds of biochemical importance. 1R, 5L. P, Bioc. 460 or CR 462a-462b.

494. Practicum (3) I, II
Staff
Senior research experience in the labs of individual faculty members. P, CR 462a-462b.

496. Proseminar (1) [Rpt./1] I, II
Staff
a. Biochemistry
Open to majors only. P, 462a or CR.

501/801. Medical Biochemistry (5) I
Staff
Comprehensive treatment of general biochemistry, oriented towards human biology, with emphasis on basic concepts. Protein and nucleic acid chemistry and metabolism, enzymology, metabolism of
l lipids and carbohydrates, metabolic regulation and closely related topics are covered. Open only to medical students except by permission. P, Chem. 103b, 104b, 241b, 245b; Phys. 102b.

504/804. Intermediate Medical Biochemistry (5) Grimes-Tischler Intermediate Medical Biochemistry is designed primarily for medical students who have had a full year of undergraduate level biochemistry. This course will accept graduate students who minor in biochemistry and meet the requirements. P, Bioc. 462a-462b or the equivalent.

561a-561b. Introduction to Biochemical Literature (1-1) Staff Supplement to 462a-462b, in which a more detailed consideration of subject matter of immediate lectures is involved. Primarily for those students planning a career in biochemistry and wishing to prepare themselves for future graduate study. Required of all first-year biochemistry graduate students. P, CR 462a-462b. 561a is not a prerequisite to 561b. (Identical with Chem. 561a-561b.)


568a-568b. Nucleic Acids (3-3) 1981-82 Staff Chemistry, structure, and function of nucleic acids; replication, transcription, translation, gene organization, regulation of gene expression and organelle nucleic acids. Both procaryotic and eucaryotic systems will be considered. P. 462b (Identical with Cell. 568a-568b and N.F.S. 568a-568b.)

569a-569b. Structure and Function of Biological Membranes (3-3) 1982-83 Staff Physical and chemical properties of membranes and membrane components, photosynthesis, vision, cell surface phenomena and biosynthesis of membranes and membrane components. P, 462b. (Ident. with Chem. 569a-569b.)


599. Independent Study (1-5) I, II Staff Open to students who wish to pursue topics not covered in regularly scheduled courses. Arrangements must be made with the appropriate staff member and the biochemistry program chairman before registration.

617. Steroid Chemistry and Biochemistry (3) II, 1982-1983 Staff Occurrence, biosynthesis and function of steroids in animals, plants and microorganisms; chemical reactions and metabolism; chromatographic analysis. P, N.F.S. 406a-406b or Chem. 460 and 241a-241b. (Ident. with N.F.S. 617, which is home.)

681. Introduction to Biochemical Research (1-2) I, II Staff Supervised research experiences in the laboratories of individual faculty members. Required for all first-year graduate students in biochemistry and open only to these students. 3 or 6 L. P, CR 561a-561b.

696. Seminar (1-3) I, II Staff Student reports on current research topics. Participation required for all graduate students in biochemistry but registration not required in all semesters.

a. Biochemistry I (1-3) I
b. Biochemistry II (1-3) II

799. Independent Study (1-5) I, II Staff Open to graduate students seeking a Ph.D. in Biochemistry.

800. Research (1-16) Yr. Staff

900. Research (1-5) I, II Staff Individual research by graduate students, not related to a thesis or dissertation; the student will write for an advanced degree.

910. Thesis (1-5, max. total 8) I, II Staff Research for the master's thesis.

920. Dissertation (1-9) I, II Staff Research for the doctoral dissertation.

930. Supplementary Registration (1-6) I, II Staff

FAMILY AND COMMUNITY MEDICINE

Associate Professors: Peter J. Attarian, Associate Head, [Assistant Professor, Psychiatry], Robert W. Buckingham [Public Policy, Planning & Administration], Gail G. Harrison [Pediatrics, Nutrition & Food Science], Theodore H. Koff [Public Policy, Planning & Administration], Daniel O. Levinson, Douglas Lindsey [Surgery]

Assistant Professors: Ronald S. Fischler [Pediatrics], Jonathan C. Hake (Director, Family Practice Residency), Michael K. Magill, Craig L. McClure (Clinical Director, Western Winds Geriatric Assessment Center), Ronald E. Pust (Clinical Director, St. Elizabeth of Hungary), William L. Roberts, Arthur B. Sanders [Surgery, Internal Medicine], Jean E. Sullivan (Clinical Director, Family Health Center), Barry D. Weiss (Clinical Director, Family Practice Office)

Lecturers: Esther E. Alcorn [Surgery], Leon Bennet-Alder, Diane G. Hillman [Public Policy, Planning & Administration], Mary E. Hotvedt, Lois W. Kamel, Bertha Leis, Dalton F. McClelland, Augusto Ortiz, Judith N. Palmer, Kathleen M. Rest, Robert G. Rhode, Bernhardt E. Stein

Adjunct Professors: Barton R. Burkhalter, Elliott M. Heiman [Psychiatry], Wadie W. Kamel
Adjunct Associate Professors: Suzanne E. Dandoy, H. Winter Griffith, Robert G. Harmon, John H. Hughes, Thomas E. Moon (Cancer Center Division), Paul A. Nutting, Jr., John D. Repko, Steven S. Spencer

Adjunct Assistant Professors: Lucinda A. Alibrandi [Assistant Professor, Addiction Studies], Dileep G. Bal, William A. Clauss, Dorian M. Cordes, Murray M. DeArmond [Psychiatry], Pierre DeCoufle, [Associate Professor, Health Education], Henry S. Edwards [Associate, Internal Medicine], Robert W. Garrett [Psychiatry, Pharmacy Practice], Georgia G. Hall, Barbara R. Hartmann, Ann K. Henry [Assistant Professor, Pharmacy Practice], Cynthia C. Johnston, Paul R. Marques [Pharmacology; Assistant Professor, Addiction Studies], Lawrence M. Moher [Clinical Director, Geriatric Primary Care Centers], Cheryl K. Ritenbaugh, James E. Sarn, Dalice A. Sim, Mark D. Van Ert [Health Education], Barbara H. Warren

Visiting Professor: Paul B. Pearson [Nutrition and Food Science]

Visiting Associate Professor: Jeanne S. Newman

Research Associates: Helen L. Gensler, Frank L. Lambrecht [Pharmacology], Janet H. Senf


The Department emphasizes the values of family and community orientation to medical practice. By means of preceptorships, seminars, projects, lectures, community assignments
and clinics, in collaboration with other departments, students learn family medical practice, clinical preventive medicine and the elements of epidemiology, public health and medical care organization.

A primary focus of activity is the development of clinical teaching service resources in the rural and urban underserved areas of the state. This is reflected in programs of preceptorships and clerkships and other educational experiences for the students and residents. Many private family physicians in the community constitute a major teaching resource and a variety of health-related institutions and programs enrich the student’s experience. The Department also collaborates with the Colleges of Agriculture, Business and Public Administration, Nursing, Pharmacy, and the School of Health Related Professions in a variety of educational, research, and service efforts.

By participation in such varied programs and experiences, the medical students and residents are encouraged to enter family practice and to set up practices in areas of need. Special emphasis is given to knowledge, and achievement of comprehensive high quality medical care.

In addition to the specific courses listed below, the Department participates in the interdepartmental course, Preparation for Clinical Medicine, (which includes physical diagnosis, interviewing, primary care problems, and selected seminars) and in a number of elective interdepartmental courses, many of which are open to graduate students (see Electives Manual or members of the Department).

The Department has approved residencies in Family Practice, General Preventive Medicine/Public Health and Occupational Medicine. Combined Residency programs in Family Practice and Preventive Medicine/Occupational Medicine are available. There is also an ongoing program of continuing education for community physicians, developed in close collaboration with the Arizona Academy of Family Physicians.

**Course Descriptions**

487. *Poverty and Health (3) II GC*  
Staff  
Study of the relationship between poverty and health. Concepts and theories from anthropology, psychology and sociology will be used to analyze problems associated with poverty. P, 6 units of Social Science. (Ident. with Nurs. 487.)

500/800. *Research (2–16) (Rpt./2) Yr.*  
Staff  
Individual research not related to a thesis for an advanced degree. P, Completion of basic science courses.

588. *Clinical Anthropology (3) II*  
Staff  
Application of principles from anthropological theory to the actual practice of patient care, with emphasis on culture content of groups living in the greater Southwest. P, 9 units of Behavioral Science. (Ident. with Nursing 588.)

599/899. *Independent Study (1–12) I, II*  
Staff  
Nichols-Magill-Staff  
In-depth studies of clinical and nonclinical topics.

803. *Clinical Clerkship (6–9) Yr.*  
Staff  
Pust-Staff  
Students will develop and refine problem-solving skills in the ambulatory setting. Emphasis will be on the diagnosis and management of the illnesses presented to primary care facilities. The student will be taught to effectively use the health care team in patient assessment, and to incorporate the principles of preventive and prospective medicine into clinical practice. A life-style curriculum is integrated into the didactic presentations. This clerkship is a required course for third year medical students.

815. *Subspeciality, Yr.*  
Staff  
Harrison-Magill-Staff  
See Electives Manual for course descriptions.  
Roberts  
b. The Dying Patient (1–6) [Rpt/1] Yr.  
Nichols-Hartmann-Vuturo  
d. Community Health Problems (6–12)

891. *Preceptorship (6–12) Yr.*  
Staff  
Stein-Mohr-Staff  
Nichols-Pust-Staff  
A variety of Family Practice sites throughout the state and country are approved for preceptorship training. These include solo, group, community clinic and hospital-based practices in locations representative of Arizona’s cultural, economic and geographic diversity. See Electives Manual for course descriptions.  
a. Primary Care (6–12)  
f. Clinical Preceptorship in International Health (6–12)
INTERNAL MEDICINE

Professors: Rubin Bressler, Head (Chief, Clinical Pharmacology), F. Paul Alepa, Robert A. Barbee, John T. Boyer (Chief, Section of Clinical Immunology), Benjamin Burrows (Chief, Section of Pulmonary Diseases), William F. Denny, Brian G. M. Durie, Gordon A. Ewy (Chief, Section of Cardiology), Stephen E. Jones (Chief, Section of Hematology and Oncology), Murray A. Katz, Louis J. Kettell, Ronald J. Knudson, Michael D. Lebowitz, Peter J. Lynch, Associate Head (Chief, Section of Dermatology), Frank I. Marcus, Eugene Morkin, Charles A. Nugent, David A. Ogden (Chief, Section of Renal Disease), Sydney E. Salmon, Jay W. Smith (Chief, Section of General Internal Medicine)

Associate Professors: David S. Alberts, Stanton G. Axline (Chief, Section of Infectious Disease), David L. Earnest (Chief, Section of Gastroenterology), Eric P. Gall, Steven Goldman, David G. Johnson (Chief, Section of Endocrinology), Frank L. Meyskens, Jacob L. Pinnas, Robert L. Prottel, William R. Roeske, Richard E. Sampliner, Lawrence Z. Stern, Alexander H. Woods


Instructor: Alan R. Rosenfeld

Lecturers: Benjamin Burbank, P. Dennis Citron, Lloyd A. Coaker, James J. Corrigan [Pediatrics], Roger A. Davis, Mary Lenore Fines, David N. Flieger, Gerald B. Goldstein, Robert S. Heusinkveld, George N. Kerhich, Frederick A. Klein, Charles L. Krone, George J. Makol, Craig L. McClure [Assistant Professor, Family & Community Medicine], Arnold B. Merin, Ulrich F. Michael, Margaret M. Miller, Suniti K. Mukherjee [Research Associate, Physiology], Susan E. Newman (Director, Social Services), Milan V. Novak, Karen E. Redding, Donald E. Ridenour, Gail E. Riggs, Thomas C. Rotkis, David A. Saltzman, Hans F. Stein, Alfred E. Stillman [Adjunct Associate Professor, Pediatrics]

Adjunct Professors: John W. Heaton, Brendan P. Phibbs

Adjunct Associate Professors: Larry J. Buckels, Daniel S. Duick, Joseph A. Hawkins, William J. Howard, Helen M. Roberts, Robert A. Sanowski

Adjunct Assistant Professors: Joseph J. Bahl, Marvin D. Bregman [Research Associate, Cancer Center Division], Irwin L. Flink, Marilyn J. Halonen, Jeffrey P. Jaffe, Peter C. Kelly, Richard A. Kozarek, William S. Nevin, Jane M. Orient, Steven J. Schaffner, Neil Smithline, Jeffrey M. Trent

Visiting Professors: Stanley Gottlieb, Sidney C. Werner

Visiting Lecturer: Chang-qi Liu

Visiting Research Associates: Ting-Liang Jiang, Christian Ludwig, Ruth Ludwig [Cancer Center Division]

Research Associates: David B. Armet, Katie L. Carlson, Ellen M. Chase, Frederick J. Ehler, Robert W. Freiel [Physiology], Penelope E. Graves, Joann B. Hansen, (Program Director, Cancer Education and Grant Administration); Christine L. Hanson, Marguerite M. Hatch, Marilyn J. Henley, Albert Leibovitz [Cancer Center Division], Roger E. Lindberg [Pediatrics]; Rosa H. Liu, Keith E. Meredith, Meera Pathak, Yei-mei Peng, Aurelia B. Roberton, Diane H. Russell [Pharmacology], Ronald C. Slatin, Barbara J. Soehnlen, Ann L. Wright

Associates: Marilyn M. Abraham, Ernesto L. Aguilar, Gerald Altschuler, Roger J. Aubuchon, Stephen P. Bailey, David Ben-Asher, Carl Z. Berry, David G. Bowman, Michael A. Boxer, Lawrence J. Brecker, George E. Burdick, Edward Byrne-Quinn, Melvyn A.

The Department of Internal Medicine has developed a program designed to introduce undergraduate medical students to the responsibility of care of the patient. Together with the staff, students will interview and examine patients, explore what is known of the pathophysiology of the various disorders, and observe the effect of appropriate therapeutic modalities.

Course Descriptions

555. Cancer Biology (3) II [Identical with M. Micro. 555, which is home.]

800. Research (2–16) [Rpt./1] Yr.

Staff

See Electives Manual for course descriptions.

803. Clinical Clerkship (12) Yr.

Barbee-Staff

Required of all students during their first clinical year. Assignment is made to the inpatient medical wards at AHSC, Tucson Veterans Administration Medical Center, and selected hospitals in Phoenix. Emphasis is placed upon the development of clinical skills and problem solving. Students are expected to obtain and record the complete medical histories, perform physical examinations, develop appropriate differential diagnoses, and monitor the progress of assigned patients. They will participate in diagnostic and therapeutic procedures with other members of the patient care team, and attend required departmental conferences and seminars.

810. Clerkship (1–18) Yr.

Staff

a. Internal Medicine (6) Yr.
b. Ambulatory Diagnosis and Therapeutics (1–18) Yr.

815. Subspecialty (1–24) Yr.

Staff

a. Clinical Cardiology (6)
b. Clinical Dermatology (1–6)
c. Endocrinology (6)
d. Clinical Gastroenterology (6)
e. Hematology-Oncology (6)
f. Immunology, Arthritis and Allergy (6)
g. Infectious Diseases (1–6)
h. Pulmonary Diseases (1–6)
j. Pulmonary Laboratory and Consultation Service (3–6)
k. Nephrology, Renal Disease (6)
l. Clinical Allergy (1–6) (Identical with Ped. 815)
m. Medical Subspecialties (1–18) [Rpt.] Yr.
p. Critical Care Medicine (1–18) (Identical with Anes. 815p, which is home.)
See Electives Manual for course descriptions.

891. Preceptorship (1–18)
a. General Medicine and/or Subspecialties (1–18) [Rpt./2]
See Electives Manual for course descriptions.

899. Independent Study (1–16) I, II

MOLECULAR AND MEDICAL MICROBIOLOGY

Professors: John Spizizen, Head, Harris Bernstein, David W. Mount
Associate Professors: Junetsu Ito, David O. Lucas, William J. Meinke, Kenneth Ryan
[Pathology], James T. Sinski [Microbiology]
Assistant Professors: Ruthann Kibler, Richard F. Rest
Adjunct Associate Professor: Carol Bernstein
Adjunct Assistant Professors: Geraldine C. Meinke, Michael Murphy
Research Associates: Linda J. Eaton, Vivian E. Gage, Bruce E. Markham, Kounosuke Watabe, Thomas P. West

Graduate study in the Department of Molecular and Medical Microbiology in the College of Medicine is concerned primarily with the nature, synthesis and function of biological structures at the molecular and supramolecular levels. Areas of current research emphasis in the department are virology, genetics, immunology, and bacterial pathogenesis. Course programs are drawn from offerings in biochemistry, biological sciences, chemistry, mathematics, microbiology, molecular biology, anatomy, pharmacology, genetics and others.

Master of Science and Doctor of Philosophy degrees with a major in molecular biology are offered by a program whose faculty includes members from anatomy, microbiology, medicine, pharmacology, and radiology.

Some limitations of enrollments may be necessary. Medical students will be given preference in those courses that are required for the M.D. degree. All other students must obtain the permission of the instructor before enrolling. Graduate students already enrolled in departments of the College of Medicine will be given preference.

Course Descriptions

501/801. Medical Microbiology (6) I
The biological characteristics of microorganisms of importance in human health and disease; the reaction of the host to infectious agents and the mechanisms of host defense; diagnosis and management of infectious disease. Lectures, discussions, demonstrations, and laboratory experiments. P. G. Bio. 101b; Chem. 241b, 243b; Biochem. 501, CR Pathology.

540. Topics in Microbiology (1) [Rpt.] I, II
Variable content. Open to majors only.

550. Molecular Mechanisms of Microbial Pathogenesis (3) II 1982-83
Review of current concepts in specific areas of microbial pathogenesis, including actions of exo- and endotoxins, cell surface interactions, phagocytosis and host microbicidal functions. P. Microbiology 560, Biochemistry 460. (Identical with Microbiology 550.)

555. Cancer Biology (3) II
Fundamental biological aspects of neoplastic growth at the organ, cellular and molecular levels. Emphasis on the etiology, behavior, and therapy of neoplasms. (Identical with Anat. 555, I. Med. 555, and Radi 555.)

560. Structure and Function of the Immunoglobulins (3) II 1983-84
Immunoochemical characterization of the isotypic, allotypic and idiotypic specificities of the immunoglobulins and their relationships to biological function. P, Biochem. 462a-462b.
561. **Immunobiology (3) II 1982-83**  
Lucas  

570. **Molecular Genetics (3) I 1983-84**  
Mount-H. Bernstein  
Molecular genetics and biology of the bacterial viruses; molecular mechanisms of gene regulation, DNA replication, DNA repair, mutation and genetic recombination; current research in bacterial genetics (lysogeny, transduction, conjugation, use of transposons and gene fusions in genetic analysis and transformation); introduction to gene cloning and its uses in analysis of gene structure and regulation.

571. **Molecular Gene Cloning (3) II 1982-83**  
Staff  
Current gene cloning technology; restriction endonucleases, cloning vehicles (plasmid vectors, bacteriophage vectors, and single-stranded phage vectors), gene amplification and expression of cloned genes.

580. **Molecular Virology (3) II 1983-84**  
W. Meinke  
The current status of basic research in virology at the molecular level. P, Chem. 460.

595. **Colloquium (1) I, II**  
Staff  
a. Molecular Biology (1) [Rpt./2]  
Molecular Biology graduate students present seminars on research topics occurring in current literature. Seminar presentations are evaluated for content, organization, presentation, etc., by fellow graduate students and faculty. Required for first and second year graduate students.

596. **Seminar (1–2) I, II**  
Lucas  
a. Molecular and Cellular Immunology (1) I  
Mount-H. Bernstein  
b. Immunopathology (1) II  
f. Tumor Virology (1)  
g. Host-Parasite Interactions (1) [Rpt./2]  
h. Control of Proliferation in Animal Cells (1–2) I  
(Identical with Radi. 596h/896h, which is home.)

599. **Independent Study (1–6) I, II**  
Staff

896. **Seminar**  
Staff

899. **Independent Study (1–6) I, II**  
Staff

900. **Research (1–8) I, II**  
Staff

910. **Thesis (1–8, max. total 8) I, II**  
Staff

920. **Dissertation (1–9) I, II**  
Staff

930. **Supplementary Registration (1–6) I, II**  
Staff

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**NEUROLOGY**

Associate Professors: Colin R. Bamford, Jose F. Laguna, Stuart R. Snider  
Assistant Professors: Barrett Katz [Surgery], Enrique L. Labadie  
Lecturers: Robert H. Hamilton, Juan C. Lerman  
Adjunct Professors: Harvey W. Buchsbaum, Arnold P. Friedman  
Adjunct Assistant Professors: Robert A. Foote, William H. Lawrence, John F. Rothrock, Michael S. Smith, Francisco R. Valdivia  
Research Associates: Katherine P. Clark, Joan E. Laguna  

Neurology is that discipline of medicine responsible, in an overall sense, for furthering knowledge of the human nervous system, man's most distinctive feature. Courses are offered which are designed to teach students to interpret evidence of normal function and the effects of disease in altering such function. Students have a three-week required clerkship in neurology working with patients in a diagnosis- and treatment-oriented setting. A similar advanced clerkship of four weeks duration is offered as an elective. Students receive an introduction to
neurology during lectures in the neuroscience course during the basic science years.

A continuing neuroscience seminar series is presented by residents, physicians, and graduate students in the Department of Neurology throughout the year. This series is offered to medical students as well as to postgraduate trainees and students in allied areas.

Course Descriptions

495. Colloquium
   b. Introduction to the Neurosciences II (2) GC
      An introductory overview of clinical conditions that affect the human nervous system. P, 495a or permission of the instructor. (Identical with Interdept. 495b, which is home).

800. Research (1–12) [Rpt./1] Yr.
      P, Neurology 803

803. Clinical Clerkship (3–6) Yr.
      A three-week required course on the neurological wards at University Hospital, the Tucson Medical Center Hospital, the Tucson Veterans Administration Medical Center, Kino Community Hospital and the Barrow Neurological Institute in Phoenix. Cases are presented to members of the neurological staff and discussed in detail. Weekly teaching conferences are given by the neurology faculty.

810. Clerkship (1–18) Yr.
      a. Neurology (1–3) Yr.
      This four-week clerkship is offered on the neurology wards at University Hospital, the Tucson Medical Center Hospital, the Tucson Veterans Administration Medical Center, Kino Community Hospital and the Barrow Neurological Institute in Phoenix. Students work closely with the attending and resident staff in an effort to become proficient in the techniques of the neurological examination and management of neurological disorders.

891. Preceptorship (1–18) [Rpt./2] Yr.
      a. Neurology (1–3) Yr.
      See Electives Manual for course description.

OBSTETRICS AND GYNECOLOGY

Professors: C. Donald Christian, Head; Lewis S. Shenker
Associate Professors: Diane S. Fordney, William C. Scott
Assistant Professors: Herbert E. Pollock, Earl A. Surwit, Louis Weinstein
Adjunct Professors: Walter B. Cherry, John V. Kelly, Tawfik H. Rizkallah
Adjunct Associate Professors: Irwin A. Silberman, John F. Wurzel
Adjunct Assistant Professors: H. Alan Collier, David S. Grosso
Genetic Counselor and Coordinator: Lynn Hauck

Obstetrics and Gynecology is that discipline of medicine which encompasses reproductive biology and the ultimate application thereof to human reproduction. In the natural evolution of medical care in the United States the obstetrician-gynecologist has come to be the primary physician for women. The courses of study available in Obstetrics and Gynecology are designed to provide a clinical substrate for the medical student in this branch of medicine. The means to this end are by precept and example of patient diagnosis, care and therapeusis as well as didactic and tutorial sessions.

Course Descriptions

800. Research (1–18) [Rpt./1] Yr.
      Experience in each of the research areas listed below is available with programs up to six weeks in length individually designed. P, Obstetrics and Gynecology 803.
      1. Reproductive Pharmacology

Christian-Staff
Bressler-Christian
2. Diagnostic Ultrasound
3. Endocrine Laboratory
4. Perinatal Medicine
5. Gynecologic Oncology
6. Infertility/Fertility Control

803. Clinical Clerkship (6–9) Yr. Christian-Staff
Medical students will be assigned to outpatient clinics and hospital wards to become members, along with the attending physician, of the team responsible for the patient’s care.

810. Clerkship (1–18) Yr. Christian-Staff
a. Preparation for Practice
This elective course for Year IV students will essentially be an externship in a Phoenix or Tucson hospital to include exposure to the full gamut of obstetrical and gynecological care, conducted under direct supervision of a faculty member. The elective period may be for six or twelve weeks. P, 803.

891. Preceptorship (1–18) Yr. Staff
a. Obstetrics and Gynecology (1–18)
b. Gynecology-Endocrinology (6)
See Electives Manual for course descriptions.

PATHOLOGY


Associate Professors: James M. Byers, III, Richard C. Froede, Lewis Glasser, Peter C. Johnson, Douglas H. McKelvie (Animal Resources Division), Kenneth J. Ryan, Richard E. Sobonya, Philip D. Stansifer, David C. White

Assistant Professors: Anna R. Graham, Thomas M. Grogan, Edward J. Harrow, Mary Jane Hicks, Ronald B. Schiffman, Karen K. Steinbronn

Lecturers: Louis Hirsch, Paula F. Lowe, Claire M. Payne

Associates: Richard S. Armstrong, Paul D. Bozzo, Edward A. Brucker, Jr., Peter F. Salomon

The Department of Pathology has responsibility for both anatomical and clinical pathology. The objective of the study of pathology is to gain increased understanding of disease—the causes, mechanisms, and secondary alterations which occur in body structure and function—exploiting whatever methods will provide the physician with a solid body of facts from which to reason, deduce, and prognosticate.

Course Descriptions

489. Introduction to Forensic Science: Pathology, Anthropology, Toxicology and Law (2) GC I, II Froede-Byers-Birkby
The course provides opportunity for the criminal investigator and attorney with a background in forensic pathology to better understand the end results of trauma, toxic substances and environmental catastrophes.

801. General and Systemic Pathology (10) I, II Layton-Staff
Lectures, conferences, demonstrations, and laboratory investigations relating to disease. Use of current autopsy, biopsy, and clinical pathology material. P, Anat. 801, 802, 805; Biochem. 501/801; Physiol. 601/801; Micro. 801 (medical) or CR; Pharm. 501/801 or CR; Med. 801 or CR.

810. Clerkship (1–18) Yr. Staff
a. Anatomic Pathology (1–18) Yr.
An intern type program with students participating in surgical pathology, autopsies, and cytopathology. Instruction is strongly clinically oriented. P, Path. 801.

b. Clinical Pathology (1–18) Yr.
An interpretive approach to the evaluation of laboratory data in the diagnosis and management of clinical disorders. Topics include bacteriology, blood component therapy, body fluid analysis, clinical chemistry, coagulation, hematology, immunohematology, mycology, toxicology, urinalysis and virology. P, Path. 801 and twelve weeks of clinical clerkships.

c. Special Topics (1–18) [Rpt.] Yr.
Opportunities for intensive studies during a six-week period in one of the following fields: computer use, cytopathology, cytogenticics, immunohematology, immunopathology, microbiology-virology, neuropathology, pulmonary pathology, hemopathology, clinical chemistry, and oncology. May be taken more than once for credit. P, Path. 801, and prior arrangement and approval by the department.
891. Preceptorship (1–18) Yr.
a. Pathology (1–18) [Rpt./2]

PEDIATRICS

Professors: Vincent A. Fulginiti, Head, E. Russell Alexander (Chief, Infectious Disease Section), Hugh D. Allen, George D. Comerci (Chief, Adolescent Section), James J. Corrigan, Jr. (Chief, Hematology-Oncology Section), Peggy C. Ferry (Chief, Neurology Section), Stanley J. Goldberg (Chief, Cardiology Section), Otakar Koldovsky (Chief, Perinatal and Nutritional Sciences Section) [Physiology]; C. George Ray [Pathology], David J. Sahn, Lynn M. Taussig, Associate Head (Chief, Pulmonary Section), Hugh C. Thompson

Associate Professors: Burris R. Duncan (Chief, Ambulatory Section), Gail G. Harrison [Family and Community Medicine, Nutrition and Food Sciences], Marilyn J. Heins, John J. Hutter, Jr., Richard J. Lemen [Physiology], Elmer S. Lightner (Chief, Endocrinology Section), Elsa J. Sell, Michael J. Schumaker (Chief, Allergy Section), Anita M. Stafford, Paula L. Stillman, Alayne Yates [Psychiatry]

Assistant Professors: William T. Boyce, John R. Britton, Sergio A. Bustamante, Ronald S. Fischler [Family and Community Medicine], Ronald C. Hansen [Internal Medicine], H. Robert Harrison, James F. Jones, Stanley M. Lee [Internal Medicine], Lewis W. Sprunger, Lilliam M. Valdes-Cruz, Yvonne E. Vaucher

Instructor: Alice E. Carroll

Lecturers: Kyrieckos A. Aleck, William Banner, Jr., Sydney E. Salmon [Professor, Internal Medicine]

Adjunct Professor: Daniel F. Reardon

Adjunct Associate Professors: Mary E. Grimm, Mary E. Rimsza, Alfred E. Stillman [Lecturer, Internal Medicine]


Visiting Professors: Alessandro Filla, Ehud Grenadier, Carlos E. Lima, Jesus Vargas


The unique concerns of pediatrics as a medical discipline are 1) the period of life between conception and the first month of life, loosely termed perinatology; 2) the fact that children are growing and developing constantly, which results in unique physiological, biochemical, pathological, and psychosocial considerations; and 3) the period of life known as adolescence, with its characteristic physiologic and psychologic changes. The objectives of the department are to provide all students of medicine, from freshmen in medical school to the accomplished physician, an opportunity to learn of our best understanding of health and disorders in relation to the above concerns. We also have as a goal the contribution of new knowledge by appropriate research activities and the application of all available knowledge by models of health care. These objectives are achieved by the courses listed below, by active participation in regular postgraduate programs, and by the research and clinical activities in the department.

**Course Descriptions**

800. Research (1–18) Yr.  
P, Pediatrics 803

803. Clinical Clerkship (6–9) Yr.  
Corrigan-Ruggill-Fulginiti  
This six week clerkship is required of all students in their initial clinical year; an additional three weeks may be selected. Stress is placed upon acquisition and refinement of basic data collection, upon problem solving and accumulation of factual knowledge, and achieving those attitudes associated with being a physician.

810. Clerkship (1–18) Yr.  
c. Pediatric Care in a Cross-Cultural Setting (6) Yr.  
d. Inpatient Pediatrics (6) Yr.  

811. Subinternship (1–18) Yr.  
a. Ambulatory Pediatrics (1–18) Yr.  
b. Behavioral and Developmental Pediatrics (1–18) Yr.  
c. Child Abuse and Neglect (1–18) Yr.  
d. Adolescent Medicine (6)  

815. Subspecialty (1–18) Yr.  
a. Advanced Neonatology (6) Yr.  
b. Pediatric Infectious Diseases (6) Yr.  
e. Pediatric Cardiology (6) Yr.  
f. Pediatric Neurology (6) Yr.  
g. Pediatric Hematology/Oncology (6) Yr.  
k. Pediatric Clinical Pharmacology (1–12) [Rpt./1] Yr.  
l. Clinical Allergy (1–6) Yr. (Ident. with I. Med. 8151, which is home.)  
p. Pediatric Endocrinology (1–18) Yr.  
These six-week elective courses are organized by various staff and sections of the Department of Pediatrics. See Electives Manual for course descriptions.

891. Preceptorships (1–18) Yr.  
a. Pediatrics (1–18) Yr.  
b. Preparation for Practice (1–18) Yr.  

**PHARMACOLOGY**

Professors: Thomas F. Burks, II, Head, H. Vasken Aposthian [Cellular and Developmental Biology], Klaus Brendel, Rubin Bressler (Chief, Clinical Pharmacology Section) [Internal Medicine], Burnell R. Brown [Anesthesiology], Ryan J. Huxtable, Eugene Morkin [Internal Medicine], Diane H. Russell, Henry I. Yamamura

Associate Professors: David S. Alberts [Internal Medicine], Dean E. Carter, Andre Dray,
Pharmacology is a broad discipline, involving the investigation of the actions of chemicals upon living material at all levels of organization. The discipline occupies an important interface between the basic medical sciences and the clinical sciences, drawing strongly upon the former for its contribution to the latter. In the health professions pharmacologic knowledge is applied to the diagnosis, prevention, cure or relief of symptoms of disease, and in the promotion of optimal health. The basic pharmacologic principles are emphasized in both the medical and graduate student teaching. This will permit the student to develop techniques of problem solving to keep abreast of advances in pharmacology through his/her professional career.

Course Descriptions

501/801. The Pharmacological Basis of Therapeutics (6) II Palmer
Action of chemical agents upon living material at all levels of organization, with emphasis on mechanisms of action of prototype drugs. Foundation for a rational approach to human therapeutics and toxicology. P, Psio. 601; Bioc. 501/801. (Identical with Tox. 501.)

520. Clinical Pharmacology (2) I Johnson-Palmer

550. Drug Disposition and Metabolism (3) I Brendel-Sipes

551. Molecular Biology of Pharmacological Agents (3) I 1983-84, Alternate Year Lindell-Russell
The molecular mechanism of drugs and toxins at the cellular and subcellular levels, including effects on control mechanisms, cell-cell interactions, organelles, and nucleic acid and protein synthesis. P, 501, 550, 561b, Bioc. 501/801. (Identical with Tox. 551.)

554. Cardiovascular Pharmacology (3) II Huxtable-Duckles

561a-561b. Introduction to Pharmacological and Toxicological Literature (1-1) Yamamura
Student lecture series designed to supplement courses, broaden the background of students in pharmacology and toxicology, and to improve scientific communication skills. P, 501 (Identical with Pocc. 561a-561b.)

576. Environmental Toxicology (3) I Staff
Toxicity of natural toxins and of agricultural and industrial chemicals with emphasis on air and water pollutants; decision-making in environmental issues. P, 6 units of bio. and organic chem.; Chem. 325, 326. (Identical with Tox. 576, which is home.)

586a-586b. Introduction to Pharmacology and Toxicology Research (1-1) Staff
Introduction to basic research techniques in pharmacology and toxicology through supervised laboratory rotations; student-initiated and faculty-structured laboratory exercises in modern pharmacological and toxicological techniques. P, CR 501, Bioc. 565, Psio. 601.
596. Seminar (1–3) I, II
Student reports on current research topics by local and visiting scholars. Required of all predoctoral graduate students in Pharmacology and Toxicology.
   a. Advanced Graduate Research (1–3) [Rpt./3] I, II
      Required of all graduate students once per year after the first year. P, 561b. (Identical with Pcol. 596a.)

601. Analytical Toxicology (2–3) I
Lecture and lab in the qualitative and quantitative determination of toxic substances in body fluids. Modern instrumental techniques will be employed whenever appropriate. Lecture may be taken separately by non-majors. 2R, 4L. P, Chem. 400a. (Ident. with Tox. 601, which is home.)

602. Biotoxicology (2–3) II
Lecture and lab emphasizes the mechanisms of organ directed toxicities in animals. Included are chemical carcinogenesis, teratogenesis and mutagenesis. Lecture may be taken separately by non-majors. 2R, 4L. P, two semesters of gen. bio. (Ident. with Tox. 602, which is home.)

653. Neuropharmacology (2) II 1982-83, Alternate Year
Laird-Yamamura
Role of various neurochemicals in the autonomic and central nervous systems and the effect of drugs on the nervous system, including their influence on synthesis, storage, and release of neurochemicals. P, 501/801, or Pcol. 471b, 561a, 596. (Identical with Pcol. 653, which is home.)

654. Psychopharmacology (3) I, 1983-84, Alternate Year
Consroe-Marques
Effects and mechanisms of action of drugs and chemicals which influence behavior: methods for quantification of drug actions in behavioral systems, drug tolerance and dependence. P. Pcol. 471b or Phcl. 501. (Ident. with Pcol. 654, which is home.)

599. Independent Study (1–5) I, II
800. Research (1–6) Yr.
900. Research (1–5) I, II
   Individual or independent work, directed reading, or special problems under the supervision of a member of the faculty with whom specific arrangements have been made. Must be taken for graduate credit by the Pharmacology and Toxicology graduate students.

910. Thesis (1–8) I, II
920. Dissertation (1–9) I, II
930. Supplementary Registration (1–6) I, II

PHYSIOLOGY

Professors: Paul C. Johnson, Head, William H. Dantzler, Robert W. Gore, Raphael P. Gruener, Otakar Koldovsky [Pediatrics], Douglas G. Stuart,
Associate Professors: Eldon J. Braun, Andrew M. Goldner
Assistant Professors: Ziaul Hasan, Richard J. Lemen [Pediatrics], Richard L. Stouffer
Adjunct Professor: Daniel A. Pollen
Adjunct Assistant Professors: Daniel R. Keshalo, Jr., Timothy W. Secomb, Richard P. Watts
Visiting Professors: Thomas R. Blake [Chemical Engineering], Eric P. Salathe
Research Engineers: Marshall D. Elmore, Robert M. Reinking
Research Specialist: Rex M. Baker

The Department of Physiology teaches and does scholarly work on physiological mechanisms of significance to medicine. In both teaching and research, the orientation of the Department is broad, encompassing single cell, organ, and total body function.

The Department of Physiology offers graduate instruction leading to the Doctor of Philosophy degree. The requirements for this degree are those outlined in the catalog of the Graduate College. An M.S. degree is offered only in rare instances when individuals qualified to study for the Doctor of Philosophy are forced to terminate their graduate education.

Applicants for the Ph.D. program must hold a bachelor’s degree in the physical or life
sciences, engineering or mathematics and must have completed one year of physics, mathematics through calculus (two semesters) plus courses in statistics and chemistry through organic chemistry. Physical chemistry and differential equations are not required but are highly desirable and strongly recommended. An introductory course or readings in biology or zoology is deemed advisable for physical science majors. The Graduate Record Examination and three letters of recommendation are required to assist in evaluation of applicants.

Research training is an integral part of the Ph.D. program. There are laboratories for research on dynamics and control of the microcirculation, biophysics of muscle contraction and membrane phenomena, reflex regulation of muscle activity, renal function in vertebrates and invertebrates, endocrine function in mammals, pulmonary physiology, and development of gastrointestinal functions. In special circumstances, the dissertation research may be done outside the department.

The specialized nature of the material and equipment required for courses given in the College of Medicine may necessitate some limitation of enrollment. Medical students will receive preference in courses required for the M.D. degree. All other students must obtain permission of the instructor before enrolling. Graduate students already enrolled in the College of Medicine departments will be given preference.

For further information, consult the catalog of the Graduate College.

Course Descriptions

601/801. Human Physiology (8) II  
Principles of physiology with emphasis on that of the human. P, Chem. 103b, 104b, 241b, 243b; Phys. 102b.

605/805. Neurosciences (6) II  
(Identical with Anatomy 605/805, which is home.)

Courses Primarily for Graduate Students

418. Physiology for Engineers (4) GC I  
Designed to bring to engineering students awareness of the structure and function of whole organisms, their component organs and organ systems. Open to nonmajors only. (Identical with A.M.E. 418, Ch.E. 418 and E.E. 418.)

419. Physiology Laboratory (2) GC I  
Lab experiments in physiology intended to provide experience with organ systems and measurement techniques. Designed for engineering students enrolled in the clinical engineering and biomedical engineering options. 6L. Open to nonmajors only. P, 418 or CR. (Identical with A.M.E. 419, Ch.E. 419 and E.E. 419.)

480. Human Physiology (4) GC I 1982-83  
Principles of physiology, with emphasis of that of the human. Designed primarily for students enrolled in the College of Pharmacy and other students in the health related sciences by permission. P, Chem. 103b, 104b, 241b, 243b; Math. 123; Phys. 102b.

481. Physiology Laboratory (1) GC I 1982-83  
Laboratory experiments in physiology intended to reinforce principles of physiological phenomena. Designed primarily for students enrolled in the College of Pharmacy and other students in the health related sciences by permission. P, Chem. 103b, 104b, 241b, 243b; Math. 123; Phys. 102b.

495. Colloquium  
a. Introduction to the Neurosciences I (2) GC  
An introductory overview of mammalian neural structure and function. Neuroanatomical and neurophysiological principles are emphasized. P, permission of instructor. (Ident. with Interdept. 495a, which is home).
b. Introduction to the Neurosciences II (2) GC  
An introductory overview of clinical conditions that affect the human nervous system. P, 495a or consent of department. (Ident. with Interdept. 495b, which is home).

600. Mathematical Techniques in Physiology (3) I  
The application of quantitative and analytical mathematical techniques to selected areas of physiology; introduction to mathematical approaches commonly used in physiology. Open to physiology majors and minors only. P, Math. 125a-125b, 160.
602. Readings in Physiology (2) II
Designated to provide students with more detailed consideration of various organ systems than can be provided in 601. Open to majors and minors only. P, Chem. 103b, 104b, 241b, 243b, Phys. 102b, CR Psio. 601.

606. Readings in Neuroscience (2) II
Essentials of mammalian neural structure and function. Open to majors and minors only.

610. Research Methods in Physiology (1–3) [Rpt.] I, II
A lab course stressing the principles of physiological research.

696. Seminar (1–4) I, II
a. Advanced Mammalian Physiology (1–4) [Rpt./1] I, II Open to majors only. P, 600, 601, 602; 606 or Anat. 605
b. Literature (1) [Rpt./1] I, II Open to majors only. P. 600, 601, 602, 606 or Anat. 605.

Individual Studies

699. Independent Study (1–5) I, II

899. Independent Study (1–6) I, II

900. Research (1–6) I, II
Individual research not related to a thesis or dissertation for advanced degree.

920. Dissertation (1–9) I, II
Research for the doctoral dissertation.

930. Supplementary Registration (1–6)

PSYCHIATRY


Associate Professors: Diane S. Fordney [Obstetrics and Gynecology], Stephen B. Shanfield, Henry I. Yamamura [Professor, Pharmacology, Biochemistry], Alayne Yates

Assistant Professors: Peter J. Attarian [Associate Professor, Family and Community Medicine], Shirley Nickols Fahey, Milton Frank, Alfred W. Kaszniak, John S. LaWall, Russell D. Martin, John J. Misiaszek, Catherine Shisslak


Adjunct Professors: Elliott M. Heiman, George W. Hohmann, Charles P. Neumann

Adjunct Associate Professors: Bruce H. Bailey, Lewis Kurke

Adjunct Assistant Professors: Michael R. Berren, Murray M. DeArmond, Hayward M. Fox, Robert W. Garrett, Herman P. Gladstone, Rosamond T. Hathaway, Gabriel O. Manasse, Kenneth F. Marsh, Ronald G. Nathan, Joan B. Rosenblatt, Jose M. Santiago

Research Associate: G. Maureen Chaisson


The program of the Department of Psychiatry is designed to help students develop an
understanding of both normal and abnormal forms of human behavior. In addition, the student is helped to develop those skills that are needed by the physician in helping not only the patient whose primary illness is a mental disorder but also the patient whose emotional disorder develops in conjunction with a somatic illness.

To meet these goals, both didactic courses and clinical instruction are offered in the College of Medicine curriculum. After students have been introduced to the normal personality functions and to the abnormal processes which form the basis of psychopathology, they are given an opportunity to work directly with patients in treatment-oriented clinical settings.

Since psychiatric services are now provided in a variety of settings in each community, and, moreover, since mental illness constitutes an important component of most somatic illness, the student’s clinical training is provided in a variety of psychiatric treatment settings and also in a variety of general medical treatment settings. In addition to this clinical training, the students are provided with an opportunity to develop an understanding of the current social, economic, and legal issues relevant to the organization and delivery of mental health services.

Course Descriptions

495. Colloquium
   b. Introduction to the Neurosciences II (2) GC
      An introductory overview of clinical conditions that affect the human nervous system. P, 495a
      or permission of the instructor. (Identical with Interdept. 495b, which is home)

599. Independent Study (1-6) I, II

800. Research (1-12) I, II

803. Clinical Clerkship (6-9) Yr.
   Staff
   Students are assigned patients in inpatient and outpatient clinical settings. They obtain and record a
   complete history, mental status, and physical examination. They obtain and record a developmental
   survey. The students are expected to study longitudinally the course of their patients and record their
   observations in daily progress notes. They work closely with clinical staff in the planning of
   diagnostic treatment, ward management, and discharge issues involving their patients. Those
   students wishing to take an additional three- or six-week clerkship in psychiatry may elect to do so.
   (See 810 description.)

810. Clerkship (1-18) Yr.
   a. Clinical and Community Psychiatry (1-18) Yr.
   b. Child Psychiatry (1-18) Yr.
   See Electives Manual for course descriptions.

815. Subspecialty (6) Yr.
   a. Consultation Psychiatry (6) [Rpt./1]

891. Preceptorship (1-18) I, II
   a. Psychiatry (1-18) [Rpt./2] I, II
   P. Psychiatry 803.
   See Electives Manual for course description.

899. Independent Study (1-18) I, II

RADIOLOGY

Professors: M. Paul Capp, Head, Harrison H. Barrett, Theodore Bowen [Physics], Robert S.
Heusinkveld (Chief, Radiation Oncology) [Internal Medicine], Sol Nudelman, Dennis D.
Patton (Chief, Nuclear Medicine), Arthur J. Present, Joachim F. Seeger, William Swindell
[Optical Sciences], William L. Wolfe [Optical Sciences]

Associate Professors: Silvio A. Aristizabal, William G. Connor [Electrical Engineering],
Eugene W. Gerner, Kai Haber, Robert E. Henry, Bruce J. Hillman, Tim B. Hunter, Bruce
E. Magun [Anatomy], Theron W. Ovitt, Michael J. Pitt (Chief, Diagnostic Radiology),
Bryan Westerman, James M. Woolfenden
Assistant Professors: John C. Bjelland, George T. Bowden, Raymond F. Carmody, Thomas C. Cetas, James M. Hevezi, Michael R. Manning, Michael J. Moore, Douglass Morrison [Internal Medicine], James R. Oleson, Gerald D. Pond, Janice R. Smith, Del V. Steinbronn [Surgery]

Lecturers: Randy V. Brogdon, Harry R. Claypool, Jack N. Hall, Douglas McKelvie (Animal Resources Division), Hugh J. Murrell

Adjunct Professor: Roger C. Jones [Electrical Engineering]

Adjunct Associate Professors: Theodore Ditchek, Walter T. Hileman, John R. Kline, Norman N. Komar, Hans Roehrig

Adjunct Assistant Professors: H. Bradford Barber, Anne E. Cress, John K. Crowe, Mark W. Dewhirst, Brian E. Gersten, Samuel J. Hessell, Jonathan M. Levy, James D. Nauman, James A. Schnur, Robert D. Schweizer, Steven J. Strober

Research Associates: Graham A. Davey, Steven I. Finette, David J. M. Fuller, Robert E. Hastings, Jr. [Adjunct Assistant Professor, Surgery], Richard J. Nasoni, Laura Z. Rassenti, Paul R. Stauffer


The Department of Radiology includes the University Hospital Divisions of Diagnostic Radiology, Nuclear Medicine, and Radiation Oncology.

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**Course Descriptions**

501. Radiation Biology (3) II  
Gerner  
Basic principles of radiation effects in mammalian cell and tissue systems with emphasis on biochemical aspects, such as DNA damage and DNA repair, and cellular responses, such as cell kinetics defects and radiation repair and recovery; radiation and chemical (especially radiomimetic drugs) carcinogenesis. P, intro. bio. and chem.

555. Cancer Biology (3) II  
Bowden-Gerner-Magun  
Fundamental biological aspects of neoplastic growth at the organ, cellular and molecular levels. Emphasis on the etiology, behavior, and therapy of neoplasms. (Ident. with M. Micro. 555, which is home.)

596. Seminar (See 896)  
Staff

599. Independent Study (1–12) I, II  
Staff

800. Research (1–6) [Rpt./1] Yr.  
See Electives Manual for course description.

815. Subspecialty  
a. Diagnostic Radiology (6) Yr.  
b. Nuclear Medicine (1–6) Yr.  
c. Radiation Oncology (1–16) Yr.

891. Preceptorship (1–18) Yr.  
Staff  
See Electives Manual for course description, P, Path. 801.

896. Seminar  
Gerner  
h. Control of Proliferation in Animal Cells (1-2) I  
Seminar literature course reviewing current literature concerning regulation of eukaryotic cell proliferation. Graduate student participation in form of literature review and discussion. Innovative experiments to answer developed questions will be proposed and discussed in context of this course. P., Consent of department. (Ident. with M. Mic. 596e/896h)

899. Independent Study (1–12) I, II  
Staff

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**SURGERY**

Professors: Stephen L. Wangensteen, Head; Daniel R. Boone [Speech and Hearing Sciences], Milos Chvapil (Chief, Section of Surgical Biology), Jack G. Copeland (Chief, Section of
Cardiovascular and Thoracic Surgery), Stanley W. Coulthard (Chief, Section of Otologic Surgery), Robert D. Drach (Chief, Section of Urology), Jerry Goldstone (Chief, Section of Vascular Surgery), William R. Hodgson (Speech and Hearing Sciences), Noel D. Matkin (Speech and Hearing Sciences), Lawrence W. Norton, Associate Head (Chief, Section of General Surgery), Leonard F. Peltier (Chief, Section of Orthopedic Surgery), Robert G. Volz, Philip R. Weinstein (Chief, Section of Neurosurgery), Charles L. Witte, Marlys H. Witte, Charles F. Zukoski, III

Associate Professors: Robert M. Anderson, Eric P. Gall [Internal Medicine], Theodore Glattke [Speech and Hearing Sciences], Jonathan Herschler (Chief, Section of Ophthalmology), Douglas Lindsey, Harvey W. Meislin (Chief, Section of Emergency Medicine), Edward C. Percy, Michael J. Pitt [Radiology], Charles W. Putnam, Martin E. Silverstein, Donald P. Speer, Thomas H. Stanisic, Hugo V. Villar


Instructor: Susan A. Bailey


Adjunct Professors: Floyd E. Anderson, Robert B. Gilforder, John R. Green, Harry W. Hale, Jr., Alfred Heilbrunn, George H. Mertz, Henry A. Perlmutter, Eric G. Ramsay, Peter J. Whitney

Adjunct Associate Professors: David P. Campbell, C. Peter Crowe, Jr., Donald W. DeYoung (Animal Resources Division), Robert M. Dryden, Clemond D. Estkelson, C. Herbert Fredell, Donald M. Gleason, Robert P. Goldfarb, John W. Magee, Charles W. Needham, Jacob B. Redekop, John M. Stein, Frank L. Zwemer

Adjunct Assistant Professors: Ronald W. Barnet, Janice M. Burke, William J. Casey, Jr., Alfred S. Gervin, Carol A. Gervin, Robert E. Hastings, Jr. [Research Associate, Radiology], Peter N. Herrington, John A. Kelly, Ronald L. Misiorowski, William N. Neubauer, Neopto L. Robles, Jerry B. Rogers, Andrew G. Shetter, N. Wendell Todd, Jacqueline R. Womble [Research Associate, Pharmacology]

Visiting Associate Professor: Glen C. Gerhard [Electrical Engineering]


The Department of Surgery provides a broad general exposure to surgery during a 6 week basic clinical clerkship. Students extending this clerkship to 9 weeks in Year III will also meet the surgery specialty requirement. This requirement can also be met by registering for Surgery 807 in Year IV. The basic clerkship stresses preoperative evaluation, proper operating room conduct, and postoperative management. Basic operative skills are practiced in the animal laboratory. An awareness of the nature and management of surgical disease is developed by daily lectures and rounds and weekly conferences. The surgery Specialty Clerkship reinforces these basic skills by application to specialty areas such as urology, orthopedics, neurosurgery, cardiothoracic surgery and otolaryngology.

Elective courses in general and specialty surgery and various aspects of surgical biology are offered. Increased clinical responsibility is assured on hospital services by assigning the elective student to the patient care team. Special courses designed around specific clinical activities and research programs in the Department of Surgery and other departments are available on an individual basis.

The graduate program in surgical sciences includes hospital training in general and specialty surgery with a strong emphasis upon the five-year graduate program. It emphasizes training of the clinical surgeon but encourages elective surgical study for future community, academic or research surgery.

Course Descriptions

800. Research (1–12) Yr.

803. Clinical Clerkship (6–9) Yr.

Introduction to clinical surgery through hospital clerkship on surgical wards. Nine weeks includes the surgery Specialty Clerkship requirement.

807. Specialty Clerkship (3) Yr.

Introduction to clinical surgery through exposure to a surgery Specialty Clerkship (as assigned by the Surgery Department). Requirement can also be met by taking 9 weeks of Surgery 803.

810. Clerkship (1–18) Yr.

a. General Surgery (6) Yr.

See Electives Manual for course descriptions.

815. Subspecialty (1–18) Yr. [Rpt./3]

a. Urinary Stone Disease (6) Yr.

b. Cardiothoracic Surgery (6) Yr.

c. Neurosurgery (6) Yr.

d. Surgical and Medical Problems in Fluid and Electrolyte Balance (1–3) [Rpt./1] Yr.

e. Urology (6) Yr.

f. Orthopedics (3–6) Yr.

g. Cardiovascular Physiology and Research (1–12) Yr.

h. Lymphvascular System in Health and Disease (6–12) Yr.

i. Otorhinolaryngology (3) Yr.

j. Sports Medicine (Section of Orthopedic Surgery) (1–6) [Rpt./1] Yr.

k. Ophthalmology (3–6) Yr.

l. Rehabilitation Services (1–6) Yr.

m. Emergency Medicine (3–12) Yr.

See Electives Manual for course descriptions.

891. Preceptorships (1–18) [Rpt./3] Yr.

a. Surgery and Subspecialities (1–18) [Rpt./3] Yr.

DIVISIONS

DIVISION OF ANIMAL RESOURCES

Douglas H. McKelvie, D.V.M., Ph.D., Director

The Division of Animal Resources was established, within the College of Medicine, to provide a centralized facility for the maintenance of animals for use in research and teaching. Inherent with this function is the responsibility to maintain standards, exceeding those required by law, in considering welfare of the animals.

The Division not only provides space for the holding of animals, but also the feeding, cleaning and handling of those animals. In addition, three veterinarians and trained laboratory animal technologists and technicians observe and provide teaching and practical assistance in the proper methods of restraint and animal use. All research projects using animals, must be approved as to adequacy of anesthetics and analgesia, as well as disease control prior to their use. Expertise in the use of specific animal models is provided to investigators, thus eliminating unnecessary use of animals.

Concern for the welfare of the animals, plus recognition of the need for quality biomedical research are the primary objectives of the staff of the Division of Animal Resources.
DIVISION OF BIOMEDICAL COMMUNICATIONS

William T. Harrison, Ph.D., Director

The Division of Biomedical Communications is an academic support unit providing comprehensive communications media planning and production services for the College of Medicine. A professional staff provides medical photography, illustration, television, instructional materials design and development, and media utilization services in support of the teaching, in-service training, research, and public service programs of the entire Arizona Health Sciences Center.

A primary goal of the Division is to provide timely, creative, innovative and cost-effective resources for the instructional communication needs of the faculty, staff and students.

CANCER CENTER DIVISION

Sydney E. Salmon, M.D., Director

The University of Arizona Cancer Center was established in 1976 with an overall goal to significantly contribute to research related to the understanding and treatment of cancer. To attain its goal, the Cancer Center pursues the following objectives:

1) serve as a major geographic resource identified as a Cancer Research Center,
2) promote excellence in clinical and laboratory cancer research, patient care and education,
3) facilitate and coordinate cancer-related programs at the University of Arizona,
4) develop an outreach program to serve the University and State of Arizona.

The Cancer Center has been involved with planning educational, clinical and scientific activities. The Center’s commitments have included educational programs for medical and graduate students as well as teaching of practitioners and allied health professionals at numerous local and national continuing medical education programs. Medical Student Cancer Programs have been awarded to students to work in cancer-related projects with faculty from throughout the College of Medicine and other health professionals throughout the state. The monthly Tumor Board at the University Hospital is open to all interested persons and discusses aspects of cancer patient management and prevention. As part of the required curricula of medical students, individual lectures in cancer education are presented in the Departments of Biochemistry, Molecular and Medical Microbiology and Pharmacology.

The clinical oncology and clinical research programs of the Cancer Center have continued to draw an increasing cancer patient volume to the Arizona Health Sciences Center which is now the acknowledged leading resource for provision of cancer care in the state.

Multidisciplinary cancer research expertise has continued to be developed in numerous clinical and laboratory programs that include heat, radiation and drugs in cancer therapy, the interaction of Vitamin A and its synthetic derivatives with pre-neoplastic and neoplastic states and to define the pathophysiology of clonal growth of cancer in man.
DIVISION OF MULTIDISCIPLINE LABORATORIES

John D. Palmer, M.D., Ph.D., Director

The University of Arizona College of Medicine utilizes multidiscipline laboratories for the teaching of the laboratory aspects of the basic sciences. In contrast to the more traditional medical schools wherein each of the six basic science departments has its own teaching facility, this institution uses a central teaching facility which serves as the home base for the students enrolled in the preclinical years of the curriculum. Thus, instead of the students coming to the faculty, the faculty comes to the students in the multidiscipline laboratories. The student laboratory wing of the basic sciences building also includes the lecture halls used by the medical students. Thus, in a single wing of the building, the students receive the majority of their preclinical education.

The multidiscipline laboratories also provide educational support in the form of television services. The unit provides staff support for the production of educational television programs as well as utilization of television materials in the classroom. The television staff also provides support for television services required by the research endeavors of the basic sciences faculty.

DIVISION OF RESPIRATORY SCIENCES (CHEST-ALLERGY CENTER)

Benjamin Burrows, M.D., Director
Ronald J. Knudson, M.D., Associate Director
Michael D. Lebowitz, Ph.D., Assistant Director

The Division of Respiratory Sciences has members from many different academic departments of the University. It has responsibility for interdisciplinary pulmonary-allergy programs in research, training and clinical services. The Hospital Department of Respiratory Services is operated by the Division. This includes the Respiratory Therapy Service, the Adult and Pediatric Pulmonary Function Laboratories, the Blood Gas Laboratory, and the St. Luke's Adult-Pediatric Chest-Allergy Clinic. The Division is also responsible for collaborative post-doctoral training programs in Adult and Pediatric Pulmonary Medicine, and participates with the College of Nursing in providing master's level training for Pulmonary Nurse Specialists.

A major function of the Division is to coordinate multidisciplinary research programs in pulmonary disease. It is responsible for the Specialized Center of Research (SCOR) in Obstructive Airways Diseases established at the College of Medicine with funding from the National Institutes of Health. Many of the research programs of the Division are carried out in the Westend Laboratories, which are included in a "Chest Center" addition to the Clinical Sciences Building which opened in 1975. While the Division carries out a wide variety of research programs, its largest program is a longitudinal study of a representative sample of the Tucson population, known as the Tucson Epidemiological Study of Obstructive Lung Diseases.

DIVISION OF SOCIAL PERSPECTIVES IN MEDICINE

Shirley Nickols Fahey, Ph.D., Director

The Division of Social Perspectives in Medicine was established within the College of Medicine in recognition of the increasingly complicated cultural, social, economic, legal and moral influences affecting the institution of medicine in American society. The efforts of this Division are aimed at expanding and exciting the thinking of medical students and faculty in the area of human values and the role of medicine in contemporary society.

The activities of the Division include symposia, seminars and debates on such topics as: cultural and economic factors in health and disease, ethical issues in medicine, survival of the
family, health needs of the elderly, care for the terminally ill, environmental quality and similar issues. Local and national authorities are invited to participate in these programs from such fields as psychology, law, politics, sociology, anthropology, theology, and philosophy, in addition to medicine.

The Division also sponsors Kenneth A. Hill Visiting Scholars who spend a week or more at the College of Medicine and share their perspectives on modern medicine with both students and faculty in a variety of academic and clinical settings.
THE ARIZONA BOARD OF REGENTS

Ex-Officio

Bruce E. Babbitt, J.D. ......................................................... Governor of Arizona
Carolyn P. Warner ......................................................... State Superintendent of Public Instruction

Appointed

Shannan K. Marty, Student ............................................. May, 1982
William G. Payne, M.D., Treasurer ..................................... January, 1984
S. Thomas Chandler, LL.B., Assistant Secretary .................. January, 1984
James F. McNulty, Jr., Assistant Treasurer ......................... January, 1986
Esther N. Capin, M.Ed., President ...................................... January, 1986
William P. Reilly, Assistant Treasurer ................................ January, 1988
Tio A. Tachias, Secretary ............................................... January, 1988
Donald G. Shropshire ..................................................... January, 1990
Jack Pfister ................................................................. January, 1990

Assistants

Robert A. Huff, Ed.D ..................................................... Executive Director
William B. Phillips, Ph.D. ............................................... Associate Director, Academic Programs
Odus Elliott, Ph.D. ........................................................ Academic Planning Analyst
Robert Lawless, M.S ...................................................... Associate Director for Finance
Chris Barkulis, B.S. ....................................................... Assistant Director for Audits and Medical Budgets
Stephen K. Smith, J.D. .................................................... Counsel to the Board of Regents
Betsey Bayless, M.A ...................................................... Assistant Director for Personnel
Joanne C. Naccarato ...................................................... Secretary to the Board of Regents
OFFICERS OF THE UNIVERSITY

John P. Schaefer, Ph.D. ............................................ President of the University
Albert B. Weaver, Ph.D. ............................................ Executive Vice President
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Sherwood E. Carr, M.B.A., C.P.A. .................. Treasurer and Contracting Officer
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Charles H. Peyton, A.B.F.T. ............................. Associate Vice President for Research
Jean Ruley Kearns, Ph.D. ................................. Assistant Executive Vice President
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John A. Monnier, C.P.A. ................................. Assistant Vice President for Administrative Services
George R. Cunningham, M.P.A. .......................... Assistant Vice President for Planning and Budgeting
James T. Wheeler, M.B.A. .................................. Assistant Vice President for Research
Hugh Harelson, B.A. ........................................... Executive Director of University Relations
RECIPIENTS OF FACULTY TEACHING AWARDS
April 21, 1981

BASIC SCIENCES

Basic Science Educator of the Year: William D. Barber, D.V.M., Ph.D.

Dean’s List for Excellence in Teaching of the Basic Sciences:

Thomas F. Burks, Ph.D.
Norman E. Koelling, M.Sc.
John D. Palmer, M.D., Ph.D.
C. George Ray, M.D.

Outstanding Achievement in Teaching in the Basic Sciences:

Department of Pharmacology

CLINICAL SCIENCES

Clinical Sciences Educator of the Year: Douglas Lindsey, M.D., M.P.H., Dr.P.H.

House Officer Educator of the Year: Michael R. Swenson, M.D.
Honorable Mention:

R. Scott Gorman, M.D.
John F. Rothrock, M.D.

Dean’s List for Excellence in Teaching of the Clinical Sciences:

Sergio A. Bustamante, M.D.
Gordon A. Ewy, M.D.
W. David Hager, M.D.
Peter J. Lynch, M.D.
Michael J. Pitt, M.D.
Mary E. Rimsza, M.D.
Jay W. Smith, M.D.
Marlys H. Witte, M.D.

Outstanding Achievement in Teaching in the Clinical Sciences:

Department of Internal Medicine

Student Elections were conducted by Student Representatives Catherine M. Cosentino and Carol A. Wolfe, Class of 1983, and Patricia A. Bayless and Sandra K. Borg, Class of 1981.

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FOUNDER’S DAY LECTURESHIPS

Henry I. Yamamura, Ph.D. November 16, 1979
David J. Sahn, M.D. November 17, 1980
Mark R. Haussler, Ph.D. November 17, 1981
COLLEGE OF MEDICINE FACULTY AND STAFF

ADMINISTRATION

(Year of first appointment to faculty in parentheses after each name.)

KETTEL, LOUIS J. (1968)  Dean; Professor, Internal Medicine  
B.S., 1951, Purdue University; M.D., 1954, M.S., 1958, Northwestern University

HEINS, MARILYN J. (1979)  Associate Dean, Academic Affairs; Associate Professor, Pediatrics  
A.B., 1951, Radcliffe College; M.D., 1955, College of Physicians and Surgeons, Columbia University

GOLDNER, ANDREW M. (1975)  Associate Dean, Student Affairs; Associate Professor, Physiology  
B.A., 1956, Oberlin College; M.A., 1957, Stanford University; Ph.D., 1966, George Washington University

ANDERSON, ROBERT M. (1962)  Associate Dean, Continuing Medical Education and Outreach;  
Associate Professor, Surgery  
M.D., 1946, Marquette University

HEILBRUNN, ALFRED (1977)  Associate Dean for Phoenix Programs; Adjunct Professor, Surgery  
B.S., 1952, University of Missouri; M.D., 1954, University of Kansas

SEILS, GEORGE W. (1974)  Assistant Dean for Medical Administration  
Ph.B., 1948, M.B.A., 1950, University of Chicago

BURROWS, BENJAMIN (1968)  Director, Division of Respiratory Sciences; Professor, Internal Medicine  
M.D., 1949, Johns Hopkins University

FAHEY, SHIRLEY NICKOLS (1970)  Director, Division of Social Perspectives in Medicine; Co-Coordinator, Human Behavior & Development; Assistant Professor, Psychiatry  
B.S., 1957, Vanderbilt University; M.A., 1963, Ph.D., 1964, University of Florida

HARRISON, WILLIAM T. (1981)  Director, Division of Biomedical Communications  
B.A., 1965, M.A., 1966, Michigan State University; Ph.D., 1974, Ohio State University

McKELVIE, DOUGLAS H. (1974)  Director, Division of Animal Resources; Associate Professor, Pathology; Lecturer, Radiology; Adjunct Associate Professor, Veterinary Sciences  
B.S., 1950, D.V.M., 1952, Colorado State University; Ph.D., 1968, University of California, Davis

PALMER, JOHN D. (1966)  Director, Multidiscipline Laboratories; Associate Professor, Pharmacology; Assistant Professor, Internal Medicine  
B.S., 1954, M.S., 1955, University of Colorado; Ph.D., 1961, M.D., 1962, University of Minnesota

SALMON, SYDNEY E. (1972)  Director, Cancer Center Division; Professor, Internal Medicine; Lecturer, Pediatrics  
B.A., 1958, University of Arizona; M.D., 1962, Washington University
FACULTY

ABRAHAM, MARILYN M. (1974)  Associate, Internal Medicine  
B.S., 1954, University of Cincinnati; M.S., 1962, Case Western Reserve University

ABRAMS, HERBERT K. (1968)  Professor, Family & Community Medicine; Director, Arizona Center for Occupational Safety and Health  
B.S., 1936, Northwestern University; M.S., M.D., 1940, University of Illinois; M.P.H., 1947, Johns Hopkins University

ADLER, LAWRENCE (1972)  Associate, Anesthesiology; Adjunct Assistant Professor, Electrical Engineering  
B.S., 1958, M.D., 1962, University of Pittsburgh

AGUILAR, ERNESTO L. (1976)  Associate, Internal Medicine  
B.S., 1968, M.D., 1973, University of Arizona

AHL, NORMAN C. (1980)  Associate, Surgery  
B.S., 1965, University of Arizona; M.D., 1969, University of California, Los Angeles

AHMANN, FREDERICK R. (1980)  Assistant Professor, Internal Medicine  
B.A., 1970, Duke University; M.D., 1974, University of Missouri School of Medicine

AHRENS, WALTER E. (1969)  Associate, Pediatrics  
B.S., 1950, Swarthmore College; M.D., 1954, Boston University

ALBERTS, DAVID S. (1975)  Associate Professor, Internal Medicine, Pharmacology  
B.S., 1962, Trinity College; M.D., 1966, University of Virginia

ALCORN, ESTHER E. (1976)  Lecturer, Surgery, Family & Community Medicine; Physician, Emergency Services  
B.A., 1948, University of California, Berkeley; M.D., 1955, University of California Medical School, San Francisco

ALECK, KYRIECKOS A. (1981)  Lecturer, Pediatrics  
A.B., 1969, Harvard University; B.M.S., 1971, Dartmouth Medical School; M.D., 1973, Washington University School of Medicine, St. Louis

ALEPA, F. PAUL (1978)  Professor, Internal Medicine  
B.S., 1954, Lebanon Valley College; M.D., 1958, Georgetown University
ALEXANDER, E. RUSSELL (1980) Professor, Pediatrics
Ph.D., 1948, S.B., 1950, M.D., 1953, University of Chicago

ALIBRANDI, LUCINDA A. (1980) Assistant Professor, Addiction Studies; Adjunct Assistant Professor, Family & Community Medicine
B.A., 1968, Wichita State University; Ph.D., 1977, University of California, Irvine

ALLEN, HUGH D. (1973) Professor, Pediatrics
B.A., B.S., 1962, Otterbein College; M.D., 1966, University of Cincinnati

ALMGREN, RONALD C. (1970) Associate, Pediatrics
B.A., 1951, M.D., 1955, University of Louisville

ALTSCHULER, GERALD (1974) Associate, Internal Medicine
B.S., 1950, Wagner College; M.D., 1954, Albany Medical College

ANDERSON, DARRELL R. (1976) Research Associate, Biochemistry
B.S., 1967, Ph.D., 1976, Oklahoma State University

ANDERSON, FLOYD E. (1980) Adjunct Professor, Surgery
B.S., 1939, University of Wisconsin; M.S., 1946, Ph.D., 1949, University of Michigan

ANDERSON, LLOYD S. (1971) Associate, Surgery
B.A., 1955, University of Michigan; M.D., 1959, Wayne State University

ANDERSON, ROBERT M. (1962) Associate Dean, Continuing Medical Education and Outreach; Associate Professor, Surgery
M.D., 1946, Marquette University

ANGEVINE, JAY B., JR. (1967) Professor and Associate Head, Anatomy
B.A, 1949, Williams College; M.A., 1952, Ph.D., 1956, Cornell University

ANGIULO, PATRICK J. (1978) Associate, Anesthesiology
B.S., 1947, St. John’s University, Jamaica, New York; D.O., 1951, Chicago College of Osteopathic Medicine

APOSHIAN, H. VASKEN (1975) Professor, Pharmacology; Professor and Head, Cellular and Developmental Biology
B.S., 1953, Brown University; Ph.D., 1953, University of Rochester

ARISTIZABAL, SILVIO A. (1973) Associate Professor, Radiology
M.D., 1962, Universidad de Antioquia, Colombia

ARKOWITZ, HAROLD S. (1977) Associate, Psychiatry; Associate Professor, Psychology

ARKOWITZ, SYDNEY W. (1977) Lecturer, Psychiatry

ARMET, DAVID B. (1980) Research Associate, Internal Medicine, Division of Respiratory Sciences
B.A., 1972, State University of New York; M.S., 1974, University of Arizona

ARMSTRONG, RICHARD S. (1970) Associate, Pathology
A.B., 1943, University of California; M.D., 1948, M.S., 1952, Creighton University

ATTARIAN, PETER J. (1974) Associate Professor and Associate Head, Family & Community Medicine; Assistant Professor, Psychiatry

AUBUCHON, ROGER J. (1980) Associate, Internal Medicine
B.A., 1938, Assumption College; M.D., 1943, Loyola University

AXLINE, STANTON G. (1976) Associate Professor, Internal Medicine
B.A., 1956, M.D., 1960, Ohio State University

BAHL, JOSEPH J. (1976) Adjunct Assistant Professor, Internal Medicine
B.S., 1971, University of Washington; Ph.D., 1976, University of Arizona

BAILEY, BRUCE H. (1975) Adjunct Associate Professor, Psychiatry
B.S., 1956, M.D., 1958, University of Illinois

BAILEY, STEPHEN P. (1981) Associate, Internal Medicine
B.S., 1967, Arizona State University; M.D., 1971, University of Arizona

B.A., 1970, Stanford University; M.D., 1974, University of Southern California

BAKER, HELEN H. (1978) Research Associate, Office of Medical Education

BAKER, REX M. (1980) Research Specialist, Physiology
B.S., 1966, M.S., 1968, Colorado State University
BAL, DILEEP G. (1973)  Adjunct Assistant Professor, Family & Community Medicine  
M.D., 1968, All India Institute of Medical Sciences; M.S., 1970, Columbia University; M.P.H., 1971, Harvard University

BAMFORD, COLIN R. (1976)  Associate Professor, Neurology  
B.S., 1966, M.D., 1971, Royal College of Surgeons, Ireland

BANNER, WILLIAM, JR. (1979)  Lecturer, Pediatrics  
B.S., 1973, Memphis State University; M.D., 1976, University of Tennessee

BARANKO, PAUL V. (1975)  Adjunct Assistant Professor, Pediatrics  
A.B., 1962, M.D., 1965, Indiana University

BARBEE, ROBERT A. (1969)  Professor, Internal Medicine; Assistant Director, Division of Respiratory Sciences  
B.A., 1954, Yale University; M.D., 1958, University of Chicago

BARBER, H. BRADFORD (1982)  Adjunct Assistant Professor, Radiology  
B.S., 1965, Worcester Polytechnic Institute; M.S., 1971, Ph.D., 1976, University of Arizona

BARBER, WILLIAM D. (1973)  Lecturer, Anatomy  
D.V.M., 1954, Colorado State University; Ph.D, 1973, University of California, Los Angeles

BARNET, RONALD W. (1982)  Adjunct Assistant Professor, Surgery  
B.A., 1959, University of Arizona; M.D., 1963, Washington University, St. Louis, Missouri

BARRETT, HARRISON H. (1973)  Professor, Radiology, Optical Sciences  
Ph.D., 1968, Harvard University

BARRETHONER, ALAN D. (1976)  Instructor, Pharmacology; Assistant Professor, Pharmaceutical Sciences  
Doctor of Pharmacy, 1975, University of Michigan; B.S., 1973, University of Arizona

BARSTOW, LEON (1979)  Research Associate, Biochemistry  
B.S., 1962, Edinboro State; Ph.D., 1967, Syracuse University

BASTRON, R. DENNIS (1980)  Associate Professor, Anesthesiology  
B.A., 1960, M.D., 1964, University of Iowa, Iowa City, Iowa

B.S., M.S., 1965, University of Michigan; M.P.H., 1967, Tulane University; M.D., 1973, University of Michigan

BEAN, JOHN R. (1979)  Associate, Pediatrics  
B.S., 1972, M.D., 1975, University of Texas, El Paso

B.S., 1973, University of Illinois; M.D., 1977, University of Saint Louis College of Medicine

BECKER, WILLIAM (1976)  Associate, Radiology  
D.D.S., 1961, Marquette School of Dentistry; M.S.D., 1966, Baylor College of Dentistry

BEIGEL, ALLAN (1970)  Professor, Psychiatry  
B.A., 1961, M.D., 1965, Albert Einstein College of Medicine, Yeshiva University

BEN-ASHER, DAVID (1969)  Associate, Internal Medicine  
A.B., 1952, Syracuse University; M.D., 1956, University of Buffalo

BENNET-ALDER, LEON (1981)  Lecturer, Family & Community Medicine  
B.A., 1944, University of Western Ontario

BENNETT, PETER H. (1969)  Associate, Family & Community Medicine  
M.B., 1961, University of Manchester Medical School; M.R.C.P., 1964, London

BENSON, BRYANT (1973)  Professor and Head, Anatomy  
Ph.D., 1964, Vanderbilt University; B.S., 1958, Tennessee Technological University

BENTLEY, JOHN B. (1980)  Assistant Professor, Anesthesiology  
B.A., 1973, University of Washington; M.D., 1976, University of Arizona College of Medicine

BENTS, KATHLEEN M. (1979)  Associate, Family & Community Medicine  
B.S., 1969, M.D., 1974, University of Arizona

BENYAJATI, SIRIBHINYA (1978)  Research Associate, Physiology  

BERGESON, PAUL S. (1973)  Adjunct Assistant Professor, Pediatrics  
B.S., 1962, M.D., 1966, University of Utah

BERK, FLOYD K. (1975)  Associate, Surgery; Adjunct Assistant Professor, Speech & Hearing Sciences  
B.S., 1957, Ursinus College; M.D., 1961, Temple University

BERLIN, SANFORD S. (1979)  Lecturer, Psychiatry  
D.O., 1963, College of Osteopathic Medicine and Surgery, Des Moines, Iowa
BERNSTEIN, CAROL (1970) Adjunct Associate Professor, Molecular & Medical Microbiology  
B.S., 1961, University of Chicago; M.S., 1964, Yale University; Ph.D., 1967, University of California, Davis

BERNSTEIN, HARRIS (1968) Professor, Molecular & Medical Microbiology  
B.S., 1956, Purdue University; Ph.D., 1961, California Institute of Technology

BERREN, MICHAEL R. (1979) Adjunct Assistant Professor, Psychiatry  
B.A., 1969, M.A., 1971, California State, Northridge; Ph.D., 1974, Texas Tech University

BERRY, CARL Z. (1970) Associate, Internal Medicine  
B.A., 1935, Cornell University; M.D., 1939, University of Cincinnati

BEUCHAT, CAROL A. (1982) Research Associate, Physiology  

BEUTLER, LARRY E. (1979) Professor, Psychiatry, Psychology  
B.S., 1965, M.A., 1966, Utah State University; Ph.D., 1970, University of Nebraska

BEVAN, JAMES L. (1973) Associate, Family & Community Medicine  
A.B., 1954, M.A., 1955, Bucknell University; M.D., 1963, Jefferson Medical College

BITTKER, THOMAS E. (1979) Associate, Psychiatry  

BJELLAND, JOHN C. (1978) Assistant Professor, Radiology  
B.S., 1968, Creighton University; M.D., 1973, University of Tennessee College of Medicine

BLAKE, THOMAS R. (1981) Visiting Professor, Physiology; Adjunct Professor, Chemical Engineering  

BLASK, DAVID E. (1978) Assistant Professor, Anatomy  
B.S., 1969, Utica College of Syracuse University; Ph.D., 1974, M.D., 1978, University of Texas Health Sciences Center, San Antonio

BLEJER, HECTOR P. (1978) Associate, Family & Community Medicine  
B.Sc., 1954, M.D., 1958, McGill University; D.I.H., 1963, University of Toronto

BLITT, CASEY D. (1972) Professor, Anesthesiology  
B.S., 1963, University of Arizona; M.D., 1967, University of Oregon

BLUESTEIN, MARLENE (1981) Assistant Professor, Internal Medicine  
B.A., 1968, Brandeis University, Waltham, Massachusetts; M.D., 1976, State University of New York, Buffalo, New York

BLUTE, JAMES F., III (1971) Associate, Obstetrics & Gynecology  
B.S., 1967, M.D., 1971, University of Arizona

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KENT, MARTHA J.  Family Practice  
University of New Mexico School of Medicine, M.D., 1979

KENYON, THOMAS A.  Pediatrics  
University of Missouri, Columbia School of Medicine, M.D., 1981

KERN, KARL B.  Internal Medicine  
Hahnemann Medical College, M.D., 1980

KERSHNER, ROBERT M.  Ophthalmology  
University of Vermont College of Medicine, M.D., 1980

KINGSLEY, BRUCE P.  Anesthesiology  
University of California, San Francisco School of Medicine, M.D., 1978
KINGSLEY, EDWIN C.  Internal Medicine  
University of Utah College of Medicine, M.D., 1980

KIVIAT, JEFFREY H.  Pathology  
George Washington University School of Medicine, M.D., 1976

KLIGMAN, EVAN W.  Family Practice  
University of Arizona College of Medicine, M.D., 1980

KNIERIEM, KAREN M.  Anesthesiology  
University of Texas Medical School at San Antonio, M.D., 1981

KO, MARCIA G.  Internal Medicine  
University of Washington School of Medicine, M.D., 1979

KOBERNICK, MARC E.  Internal Medicine  
University of California, Davis School of Medicine, M.D., 1978

KOGAN, FREDERICK J.  Internal Medicine  
University of Utah College of Medicine, M.D., 1979

KORC, ANTOINETTE  Dermatology  
Free University of Brussels, Belgium, M.D., 1978

KUNTZELMAN, MICHAEL S.  Psychiatry  
University of Arizona College of Medicine, M.D., 1980

LEAVELL, RITA L.  Pediatrics  
University of Arizona College of Medicine, M.D., 1981

LEE, RICHARD W.  Internal Medicine  
Hahnemann Medical College, M.D., 1981

LEEDS, HOLLY M.  Surgery  
University of Massachusetts Medical School, M.D., 1980

LEEHEY, KEVIN J.  Psychiatry  
University of Texas Medical Branch at Galveston, M.D., 1979

LEEMAN, EARL K.  Anesthesiology  
University of Utah College of Medicine, M.D., 1979

LEININGER, R. GREGORY  Radiology-Diagnostic  
University of Utah College of Medicine, M.D., 1979

LEVINSON, MARK M.  Surgery  
Bowman Gray School of Medicine of Wake Forest University, M.D., 1978

LIBBY, JOHN P.  Surgery  
University of Arizona College of Medicine, M.D., 1980

LOPEZ, EDWARD M.  Surgery  
University of Colorado School of Medicine, M.D., 1978

MACBETH, GORDON A.  Surgery  
University of Arizona College of Medicine, M.D., 1978

MAHL, MICHAEL  Psychiatry  
University of Arizona College of Medicine, M.D., 1979

MANNY, BRADLY T.  Anesthesiology  
University of New Mexico School of Medicine, M.D., 1980

MAR, DONALD Y.  Radiology-Diagnostic  
University of Arizona College of Medicine, M.D., 1976

MARLOWE, JILL A.  Pathology  
University of Arizona College of Medicine, M.D., 1981

MARTIN, GARY V.  Internal Medicine  
University of Arizona College of Medicine, M.D., 1979

MARTINEZ, JIMMY P.  Family Practice  
University of New Mexico School of Medicine, M.D., 1979

MAYDEW, RANDALL P.  Surgery  
University of New Mexico School of Medicine, M.D., 1981

McCARTHY, JAMES J.  Neurology  
University of Illinois College of Medicine, Peoria, M.D., 1979

MEDLEN, JOHN C.  Orthopedic Surgery  
University of Arizona College of Medicine, M.D., 1975

MEHL, ALBERT L.  Pediatrics  
University of Colorado School of Medicine, M.D., 1980
MELTZER, PAUL S.  Pediatrics  
University of Tennessee College of Medicine, M.D., 1980

MEYER, THOMAS J.  Obstetrics-Gynecology  
Loyola University of Chicago Stritch School of Medicine, M.D., 1978

MILLER, MARGARET J.  Pediatrics  
University of Oregon School of Medicine, M.D., 1979

MOODY, T. GLEN  Ophthalmology  
University of British Columbia, Vancouver, Canada, M.D., 1974

MOON, JAMES F.  Surgery  
University of Arizona College of Medicine, M.D., 1979

MORA, WILLIAM E.  Surgery  
University of California, San Francisco School of Medicine, M.D., 1978

MORENZ, BERNARD M.  Psychiatry  
Indiana University School of Medicine, M.D., 1978

MORGAN, CLIFFORD M.  Surgery  
University of Arizona College of Medicine, M.D., 1979

MULBRY, LEONARD W., JR.  Orthopedic Surgery  
University of Kentucky College of Medicine, M.D., 1980

NACHBAR, JAMES M.  Surgery  
Washington University School of Medicine, M.D., 1980

NAUMANN, RAYMOND O.  Obstetrics-Gynecology  
University of Nebraska College of Medicine, M.D., 1973

NEVAREZ, MAX A.  Family Practice  
University of New Mexico School of Medicine, M.D., 1979

NICHOLS, MICHAEL W.  Pediatrics  
University of Texas Medical School at San Antonio, M.D., 1979

NIGGEMANN, ELAINE H.  Internal Medicine  
University of Arizona College of Medicine, M.D., 1981

OOMMEN, KALARICKAL J.  Neurology  
Trivandrum Medical College, India, M.D., 1973

OSDER, JOAN A.  Internal Medicine  
University of Arizona College of Medicine, M.D., 1981

OTANI, ROBERT KELLEY  Family Practice  
University of California, Davis School of Medicine, M.D., 1981

PAQUIN, JAMES K.  Otolaryngology  
University of Arizona College of Medicine, M.D., 1978

PAQUIN, MARIA L.  Pathology  
Facultad de Medicina Universidad de Guadalajara, Mexico, M.D., 1980

PARSEGHIAN, MICHAEL A.  Orthopedic Surgery  
Northwestern University Medical School, M.D., 1981

PECK, MICHAEL D.  Surgery  
University of Colorado School of Medicine, M.D., 1981

PERRY, NENA L.  Internal Medicine  
University of Alabama School of Medicine, M.D., 1981

PERSHALL, KIM E.  Otolaryngology  
University of New Mexico School of Medicine, M.D., 1981

PIKE, STEVEN  Preventive Medicine-Occupational  
University of New Mexico School of Medicine, M.D., 1979

PLACILLA, WILLIAM J.  Family Practice  
Duke University School of Medicine, M.D., 1979

POST, JAY H.  Radiology-Diagnostic  
University of Illinois College of Medicine, Peoria, M.D., 1978

POTTER, REBECCA L.  Psychiatry  
University of Arizona College of Medicine, M.D., 1978

PRENTICE, ROBIN L.  Anesthesiology  
University of Arizona College of Medicine, M.D., 1979

PRIETO, FRANCISCO J.  Family Practice  
University of Minnesota Medical School, M.D., 1980
PRINGLE, E. JAY  Radiology-Diagnostic  
University of Arizona College of Medicine, M.D., 1978

PRUST, RANDALL S.  Anesthesiology  
University of Colorado School of Medicine, M.D., 1982

PUTZER, DANIEL C.  Pathology  
University of Oregon School of Medicine, M.D., 1981

QUINLAN, WILLIAM J.  Orthopedic Surgery  
University of Iowa College of Medicine, M.D., 1978

RACHESKY, INGRID D.  Pediatrics  
University of Florida College of Medicine, M.D., 1981

RAMOS, MILDRED A.  Pathology  
University of Arizona College of Medicine, M.D., 1976

RANNE, RICHARD D.  Surgery  
University of Arizona College of Medicine, M.D., 1977

REA, JOSEPH L.  Preventive Medicine-Occupational Medicine  
Indiana University School of Medicine, M.D., 1980

REARDON, DAVID M.  Pediatrics  
University of Alabama School of Medicine, M.D., 1981

REGER, KENNETH M.  Radiology-Diagnostic  
University of Oregon School of Medicine, M.D., 1980

REMMERS, ELAINE  Pediatrics  
University of Oklahoma College of Medicine, M.D., 1980

RHENMAN, BIRGER E.  Surgery  
Karolinska Institute, Stockholm, Sweden, M.D., 1979

RILEY, JUDITH E.  Obstetrics-Gynecology  
University of Arizona College of Medicine, M.D., 1979

ROBERTSON, CHARLES P.  Family Practice  
University of Illinois College of Medicine, M.D., 1977

ROEDER, U. VANESSA  Surgery  
University of Arizona College of Medicine, M.D., 1981

ROGERS, ALAN K.  Internal Medicine  
Baylor College of Medicine, M.D., 1980

ROLLINS, DAVID B.  Family Practice  
Loyola University of Chicago Stritch School of Medicine, M.D., 1980

ROVZAR, MICHAEL A.  Internal Medicine  
University of California College of Medicine, Irvine, M.D., 1981

RUBENSTEIN, DANIEL J.  Pathology  
University of Arizona College of Medicine, M.D., 1980

RUNYON, THOMAS D.  Radiation-Therapeutic  
Medical College of Wisconsin, M.D., 1978

SCHNEIDER, BARRY R.  Internal Medicine  
University of North Carolina School of Medicine, M.D., 1980

SHANNON, MOIRA  Preventive Medicine  
Boston University School of Medicine, M.D., 1980

SHAUT, CHRISTOPHER A.  Surgery  
Albany Medical College of Union University, M.D., 1976

SHERMAN, DAVID E.  Psychiatry  
American University of the Caribbean, British West Indies, M.D., 1980

SHEVITZ, FRANCES  Internal Medicine  
University of Pennsylvania School of Medicine, M.D., 1978

SHILLINGTON, DAVID C.  Internal Medicine  
University of Arizona College of Medicine, M.D., 1979

SILER, JOHN R.  Radiology-Diagnostic  
University of Arizona College of Medicine, M.D., 1977

SMITH, CALVIN S.  Anesthesiology  
University of Utah College of Medicine, M.D., 1981

SMITH, SCOTT P.  Preventive Medicine  
University of California, Davis School of Medicine, M.D., 1977
SMITH, STEPHEN L.  Surgery
Mayo Medical School, M.D., 1981

SNYDER, GREGORY F.  Family Practice
Medical College of Ohio, M.D., 1981

STARK, DORAN R.  Surgery
University of Colorado School of Medicine, M.D., 1981

STEED, R. DENNIS  Pediatrics
Medical College of Georgia School of Medicine, M.D., 1981

STEINWAY, DAVID M.  Radiation-Therapeutic
Chicago College of Osteopathic Medicine, D.O., 1972

STEPHENSON, JOHN A., JR.  Anesthesiology
University of Arizona College of Medicine, M.D., 1980

STERETT, RICHARD R.  Pediatrics
University of Iowa College of Medicine, M.D., 1981

STROKER, CLAIRE  Psychiatry
University of Kansas School of Medicine, M.D., 1980

STURMAN, J. SCOTT  Internal Medicine
University of Arizona College of Medicine, M.D., 1981

SWENSON, MICHAEL R.  Neurology
University of Minnesota Medical School, M.D., 1976

SWENSON, RANDAL W.  Otolaryngology
University of Utah College of Medicine, M.D., 1979

SYKES, HELEN F.  Radiation-Therapeutic
University of Oregon School of Medicine, M.D., 1981

TAPIA, LIONEL E.  Pediatrics
University of Minnesota Medical School, M.D., 1979

TEACHER, THEODORE M.  Neurology
Bowman Gray School of Medicine of Wake Forest University, M.D., 1978

TELEP, GERALD N.  Orthopedic Surgery
University of Utah College of Medicine, M.D., 1976

THILO, ROBERT G.  Anesthesiology
University of Iowa College of Medicine, M.D., 1979

THOMAS, EVAN D.  Radiology-Diagnostic
University of Arizona College of Medicine, M.D., 1978

TSUDA, ROY  Obstetrics-Gynecology
University of Nevada School of Medical Sciences, M.D, 1981

UNGER, ANDREW  Pediatrics
University of California, Los Angeles School of Medicine, M.D., 1980

VALLE, YOLANDA H.  Pediatrics
University of California, San Francisco School of Medicine, M.D., 1979

VANPUTTEN, ROBERT A.  Psychiatry
College of Medicine and Dentistry of New Jersey-Piscataway, M.D., 1978

VOGEL, HANS P.  Pathology
Duke University School of Medicine, M.D., 1980

WAGMAN, ARMIN J.  Pediatrics
University of Michigan Medical School, M.D., 1980

WARNOCK, ROBERT H., JR.  Obstetrics-Gynecology
University of North Carolina School of Medicine, M.D., 1981

WATSON, MICHAEL M.  Pathology
University of Utah College of Medicine, M.D., 1981

WELTHER, MICHAEL J.  Family Practice
University of Wisconsin Medical School, M.D., 1979

WERBER, FRED A.  Dermatology
University of California College of Medicine-Irvine, M.D., 1977

WESTGATE, STEVEN J.  Internal Medicine
University of Florida College of Medicine, M.D., 1980

WHITE, NEAL W., JR.  Internal Medicine
University of Arizona College of Medicine, M.D., 1981
WHITELEY, TAMRA J. Internal Medicine
University of Arizona College of Medicine, M.D., 1978

WHITING, JOHN C. Urology
University of Colorado School of Medicine, M.D., 1978

WILES, JOHN C. Dermatology
Yale University School of Medicine, M.D., 1976

WILLIAMS, GREGORY D. Anesthesiology
University of Arizona College of Medicine, M.D., 1979

WILLIAMS, JOHN P. Anesthesiology
University of North Carolina School of Medicine, M.D., 1978

WIRT, DANIEL P. Pathology
Loyola University of Chicago Stritch School of Medicine, M.D., 1980

WOOL, STEVEN A. Family Practice
Duke University School of Medicine, M.D., 1980

WREDEN, DON L. Internal Medicine
University of Texas Southwestern Medical School at Dallas, M.D., 1979

YOST, H. HUNTER Psychiatry
University of Nebraska College of Medicine, M.D., 1978

YOUNG, S. REBECCA Obstetrics-Gynecology
University of California, San Francisco School of Medicine, M.D., 1979

ZABRISKIE, VINETTE Obstetrics-Gynecology
University of Arizona College of Medicine, M.D., 1978

ZIMMERMANN, KENT G. Pathology
University of Iowa College of Medicine, M.D., 1978
RESIDENCY APPOINTMENTS

CLASS OF 1982

ABBOTT, JON T.
University of San Antonio Teaching Hospital, San Antonio, TX 78284

ADAM, MARY B.
University of Arizona Affiliated Education Program, Tucson, AZ 85724

ALCORN, JOSEPH M.
University of Missouri Medical Center, Columbia, MO 65212

ARGYROS, NICHOLAS J.
Phoenix Hospitals Affiliated Pediatric Program, Phoenix, AZ 85013

AUSTEIN, MARK R.
Tucson Hospitals Medical Education Program, Tucson, AZ 85733

BEGGY, EDWARD D.
Phoenix Baptist Hospital, Phoenix, AZ 85015

BENEZE, NATHAN E.
Sioux Valley Hospital, Sioux Falls, SD 57015

BETTINGER, LARRY A.
Good Samaritan Hospital, Phoenix, AZ 85006

BROWER, STEVEN H.
University of Utah Affiliated Hospitals, Salt Lake City, UT 84132

BUCKLEY, DONALD C.
Ohio State University Hospitals, Columbus, OH 43210

CARROLL, STEVEN J.
St. Joseph's Hospital, Phoenix, AZ 85001

CHRISTIE, MICHAEL M.
University of Arizona Affiliated Education Program, Tucson, AZ 85724

COMERCI, GEORGE D.
University of Colorado Affiliated Hospitals, Denver, CO 80262

COMESS, BARBARA C.
University of California, San Diego Affiliated Hospitals, San Diego, CA 92014

COOK, JAMES R.
University of Utah Affiliated Hospitals, Salt Lake City, UT 84132

CORDOVER, MITCHELL B.
Worcester City Hospital, Worcester, MA 01610

CUTLER, HOWARD C.
Good Samaritan Hospital, Phoenix, AZ 85006

DANNENFELSER, STEVEN W.
Shani Hospital of Baltimore, MD 21215

DECKER, MARY M.
University of Arizona Affiliated Education Program, Tucson, AZ 85724

DONOHOE, KEVIN J.
Highland General Hospital, Oakland, CA 94602

DRAELOS, MICHAEL T.
University of Arizona Affiliated Education Program, Tucson, AZ 85724

DUVALL, KIRBY J.
University of Colorado Affiliated Hospitals, Ft. Collins, CO 80524

EBERT, EMILY A.
No residency in 1982

EPSTEIN, ANDREW B.
University of San Antonio Teaching Hospital, San Antonio, TX 78284

EVANS, STEVE E.
No residency in 1982

FERNANDEZ, ENRIQUE S.
Santa Monica Hospital, Santa Monica, CA 90404

FORSYTHE, BARBARA A.
Oregon Health Sciences University, Portland, OR 97201

FREDENBERG, MARY F.
Good Samaritan Hospital, Phoenix, AZ 85006

FREEDMAN, BRUCE E.
William Shands Hospital, Gainesville, FL 32610

Specialties:
- Orthopedic Surgery
- Pediatrics
- Internal Medicine
- Pediatrics
- Internal Medicine
- Family Medicine
- Flexible
- Internal Medicine
- Anesthesiology
- Surgery
- Pathology
- Psychiatry
- Internal Medicine
- Pathology
- Internal Medicine
- Internal Medicine
- Psychiatry
- Pediatrics
- Internal Medicine
- Flexible
- Internal Medicine
- Family Practice
- Surgery
- Family Practice
- Obstetrics/Gynecology
- Internal Medicine
- Surgery
FRENCH, PATRICIA A.
North Carolina Memorial Hospital, Chapel Hill, NC 27514
Internal Medicine

GILDAR, JACK S.
Good Samaritan Hospital, Phoenix, AZ 85006
Flexible

GILILLAND, JOHN L.
University of Arizona Affiliated Education Program, Tucson, AZ 85724
Obstetrics/Gynecology

GINGERICH, SHELDON E.
University of Arizona Affiliated Education Program, Tucson, AZ 85724
Psychiatry

GOLDBERG, RONALD K.
University of Arizona Affiliated Education Program, Tucson, AZ 85724
Internal Medicine

GOTTLIEB, RICHARD T.
Los Angeles County-Harbor-UCLA Medical Center, Torrance, CA 90509
Psychiatry

HALLIDAY, RONALD K.
Tucson Hospitals Medical Education Program, Tucson, AZ 85733
Flexible

HATCH, RAY O.
LSU Shreveport Affiliated Hospitals, Shreveport, LA 71103
Flexible

HEATON, JANE F.
University of Arizona Affiliated Education Program, Tucson, AZ 85724
Internal Medicine

HERMAN, DIANA M.
Good Samaritan Hospital, Phoenix, AZ 85006
Obstetrics/Gynecology

HERMAN, EDWARD P.
St. Joseph's Hospital, Phoenix, AZ 85001
Diagnostic Radiology

HILLEBRAND, JOHN A.
No residency in 1982

HOLMES, JOHN D.
Good Samaritan Hospital, Phoenix, AZ 85006
Obstetrics/Gynecology

HUTCHISON, TIM J.
University of Arizona Affiliated Education Program, Tucson, AZ 85724
Family Practice

JERMAN, MICHAEL R.
University of Iowa Hospitals, Iowa City, IA 52242
Internal Medicine

JOHNSON, DAVID C.
Maricopa County General Hospital, Phoenix, AZ 85008
Surgery

KAME, ROSALIA F.
University of Arizona Affiliated Education Program, Tucson, AZ 85724
Family Practice

KOENIG, MATTHEW J.
St. Francis Hospital Medical Center, Peoria, IL 61636
Flexible

KOWER, H. SUE
University of Arizona Affiliated Education Program, Tucson AZ 85724
Psychiatry

LANDACRE JOANN
Naval Regional Medical Center, Oakland, CA 94627
Surgery

LAYTON, BRENT J.
Veterans Administration Medical Center, Long Beach, CA 90822
Internal Medicine

LONGO, JOSEPH A.
Phoenix Integrated Surgery Residency, Phoenix, AZ 85012
Surgery

MANGOTICH, MAUREEN
University of California Los Angeles Hospitals, Los Angeles, CA 90024
Internal Medicine

MARKS, SHELDON F.
Mayo Graduate School of Medicine, Rochester, MN 55901
Surgery

MARTINEZ, ALICIA M.
Scottsdale Memorial Hospital, Scottsdale, AZ 85281
Family Practice

McDONALD, GAIL
St. Luke's Hospital, Fargo, ND 58122
Flexible

MORRIS, MERRI B.
North Carolina Memorial Hospital, Chapel Hill, NC 27514
Obstetrics/Gynecology

MYERS, JOHN F.
University of Arizona Affiliated Education Program, Tucson, AZ 85724
Surgery

NEUBAUER, KURT R.
Maricopa County General Hospital, Phoenix, AZ 85008
Flexible
NEWPORT, MARY L.
University of Arizona Affiliated Education Program, Tucson, AZ 85724

OVAL, JOHN H.
UCLA San Fernando Valley Program, Sepulveda, CA 91343

PARKER, JEFFREY B.
Maricopa County General Hospital, Phoenix, AZ 85008

PARKS, BRUCE O.
University of Arizona Affiliated Education Program, Tucson, AZ 85724

PETEYSON, KENNETH B.
Good Samaritan Hospital, Phoenix, AZ 85006

POTZLER, MARK S.
Riverside General Hospital, Riverside, CA 92503

PRESTON, PAUL B.
Presbyterian Medical Center, Denver, CO 80218

RAUSCH, JOHN F.
Mayo Graduate School of Medicine, Rochester, MN 55905

ROBINSON, STANLEY E.
Good Samaritan Hospital, Phoenix, AZ 85006

SEIDNER, STEVEN R.
Los Angeles County-UCLA Medical Center, Los Angeles, CA 90029

SHALLMAN, RICHARD W.
MarshfieldUniversity of Wisconsin, Marshfield, WI 54449

SHANNON, SCOTT M.
No residency in 1982

SHAW, DANIEL L.
Good Samaritan Hospital, Phoenix, AZ 85006

SHEDD, STEVE A.
University of Arizona Affiliated Education Program, Tucson, AZ 85724

SMITH, WEBER L.
University of Miami Affiliated Hospitals, Miami, FL 33136

SMOOTS, ELIZABETH S.
Good Samaritan Hospital, Phoenix, AZ 85006

STIZZA, DENIS M.
Wilford Hall USAF Hospital, San Antonio, TX 78236

THOMPSON, CRAIG F.
University of Nevada Affiliated Hospitals, Reno, NV 80502

THOMPSON, JULIANNE
Mayo Graduate School of Medicine, Rochester, MN 55905

THRASHER, DENNIS L.
Tucson Hospitals Medical Education Program, Tucson, AZ 85733

UDALL, COLLIN
General Hospital Ventura County, Ventura, CA 93003

VOSBURGH, THOMAS B.
University of Colorado Affiliated Hospitals, Grand Junction, CO 81501

VOSE, WAYNE
Wilmington Medical Center, Wilmington, DE 19899

WEISMAN, NEIL J.
Tucson Hospitals Medical Education Program, Tucson, AZ 85724

WHITE, ANNETTE M.
Mahec Family Practice Residency, Ashville, NC 28801

WIGAL, GAYLA D.
St. Joseph's Hospital, Phoenix, AZ 85001

WILLER, ROBERT J.
Good Samaritan Hospital, Phoenix, AZ 85006

WILLS, MARK G.
St. Joseph's Hospital, Phoenix, AZ 85001

WITTELS, SYLVIA R.
University of Missouri Medical Center, Columbia, MO 65212

Surgery
Internal Medicine
Internal Medicine
Pathology
Internal Medicine
Family Practice
Internal Medicine
Family Practice
Pediatrics
Surgery
Internal Medicine
Anesthesiology
Pathology
Family Practice
Internal Medicine
Family Practice
Flexible
Family Practice
Family Practice
Radiology
Flexible
Family Practice
Family Practice
Family Practice
Family Practice
Family Practice
WORTHINGTON, DELWYN J.
Phoenix Integrated Surgical Residency, Phoenix, AZ 85012

WURZEL, MARK S.
UCLA Antelope Valley Hospital, Lancaster, CA 93534

ZUSCHKE, WALTER A.
Mercy Hospital and Medical Center, San Diego, CA

Surgery

Family Practice

Obstetrics/Gynecology
CLASS OF 1983

Banasiak, Rosalie Elizabeth, Phoenix, Arizona
Baum, Martha Baker, Tucson, Arizona
Berens, Eric Scott, Tucson, Arizona
Bliklen, David Alvan, Phoenix, Arizona
Boone, Max Robert, Tucson, Arizona
Bradway, John Kent, Paradise Valley, Arizona
Brayer, Toni Jo, Page, Arizona
Bried, James Michael, Paradise Valley, Arizona
Brown, Joanna Gail, Tucson, Arizona
Burrell, John Michael, Phoenix, Arizona
Calder, William Alexander, Tucson, Arizona
Callison, Sue Ann, Tucson, Arizona
Carrillo, Joseph Manuel, Globe, Arizona
Coons, Stephen William, Tucson, Arizona
Corcoran, Margaret Ann, Tucson, Arizona
Cosentino, Catherine M., Tucson, Arizona
Courtney, Susan Syril, Tucson, Arizona
Cullen, Theresa Ann, Ganado, Arizona
Dahl, Daniel Allan, Phoenix, Arizona
DeMuth, Brian E., Buckeye, Arizona
Denson, Mark Lynn, Tempe, Arizona
Duvall, Karen Mulgrew, Tucson, Arizona
England, Robert William, Jr., Casa Grande, Arizona
Everett, James Leonard, Tucson, Arizona
Files, Julia Anne, Phoenix, Arizona
Gee, Daniel, Scottsdale, Arizona
Gin, Susan Louise, Tucson, Arizona
Goodman, Matthew Mortensen, Tucson, Arizona
Gooze, Lisa Lee, Tucson, Arizona
Hamant, Michael Frank, Tucson, Arizona
Heinrich, Stephen Douglas, Tucson, Arizona
Hendrickson, Karl Arthur, Oracle, Arizona
Hess, Richard Neal, Tempe, Arizona
Hils, Helen Elizabeth, Tucson, Arizona
Hitt, Russell Scott, Tucson, Arizona
Hoenecke, Heinz Roland, Jr., Tucson, Arizona
Hudson, Paul Bryan, Tucson, Arizona
Johnson, Lane Pilzer, Tucson, Arizona
Johnston, Patricia Kay, Cheyenne, Wyoming
Kaminskas, Daniel Ernest, Scottsdale, Arizona
Keccecioglou, Zoe Diana, Tucson, Arizona
Kettel, Louis Michael, Tucson, Arizona
Koutnik, Carl Joseph, Peoria, Arizona
Lacy, Mark Danforth, Payson, Arizona
Lahet, Bradley Stephen, Scottsdale, Arizona
Lange, Daniel Hart, Prescott, Arizona
Leis, Angel Arturo, Phoenix, Arizona
Lepinski, Sandra Louise, Tucson, Arizona
Mackin, Robert Anthony, Kalispell, Montana
Mar, Eugene Yale, Safford, Arizona
Martin, Nicholas Bruce, Flagstaff, Arizona
Martinez, Arthur Nickolas, Flagstaff, Arizona
Martinez, Michael Ralph, Tucson, Arizona
Maze, Stephen Craig, Tucson, Arizona
Merkley, Richard Lorin, Chandler, Arizona
Nanda, Anil, Mesa, Arizona
Nikta, James Edward, Tucson, Arizona
Orman, Rodger Stuart, Tucson, Arizona
Paicius, Richard Markus, Tucson, Arizona
Parker, Rene Ortiz, Nogales, Arizona
Poage, Jeffrey Alan, Duncan, Arizona
Price, Patrick, Tucson, Arizona
Reinking, Jeffrey Carl, Tucson, Arizona
Rennels, Margaret Ann, Tucson, Arizona
Saliba, Barbara Jean, Phoenix, Arizona
Sandell, Sharon Lynne, Phoenix, Arizona
Sandor, Richard Paul, Phoenix, Arizona
Schubert, Mark Samuel, Phoenix, Arizona
Schwager, Edward Jay, Tucson, Arizona
Scott, James Lee, Scottsdale, Arizona
Scott, Peter Norman, Tucson, Arizona
Seby, Michael John, Tucson, Arizona
Shaw, Gary Thomas, Tempe, Arizona
Simmons, Becky Anne, Tucson, Arizona
Smith, Donald Vincent, Scottsdale, Arizona
Smith, William Edward, Tempe, Arizona
Sterling, Connie Jo, Lake Havasu City, Arizona
Stewart, Bruce Edwin, Tucson, Arizona
Stuart, Jeffrey Dean, Tucson, Arizona
Swenson, Eugene Dean, Jr., Mesa, Arizona
Thrift, William James, Phoenix, Arizona
Wakefield, Ronald Dean, Tempe, Arizona
Weimar, Rick, Tucson, Arizona
Wendt, Jeanette, Phoenix, Arizona
Wolfe, Carol Ann, Tucson, Arizona
Yee, Steven Allen, Phoenix, Arizona
CLASS OF 1984

Ahearn, Patricia Ann, Tucson, Arizona
Altschuler, Eric Matthew, Tucson, Arizona
Arthur, James Paul, Cornville, Arizona
Barberii, John Kendall, Tucson, Arizona
Barlow, Carol Lynn, Tucson, Arizona
Bartels, Martin Hans, Tucson, Arizona
Baxter, Barbara Jane, Tempe, Arizona
Borbon-Ortiz, Joni, Winkelman, Arizona
Bruns, Brad Roy, Phoenix, Arizona
Bryszcz, Thomas Leo, Paradise Valley, Arizona
Bullington, Ann, Phoenix, Arizona
Capin, Donna Marie, Nogales, Arizona
Carter, John Edward, Yuma, Arizona
Chervenak, Carol Louise, Keams Canyon, Arizona
Connolly, M. Brigid, Tucson, Arizona
Cooke, Paul Harvey, Phoenix, Arizona
Cox, Adrienne Beth, Tucson, Arizona
Cox, Carol Mary, Tucson, Arizona
Crowell, David French, Flagstaff, Arizona
Dahms, Kathryn Leigh, Tucson, Arizona
Daniels, Leslie Jo, Tucson, Arizona
Derksen, Daniel John, Phoenix, Arizona
Dingle, Steven Franklin, Tucson, Arizona
Fassler, Eric Neal, Tucson, Arizona
Fonken, Royce Leon, Tucson, Arizona
Franks, Joan Marie, Mesa, Arizona
Furgerson, Dorothy Louise, Phoenix, Arizona
Gandolfi, John Stevan, Scottsdale, Arizona
Gannon, David Wayne, Scottsdale, Arizona
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Jewett, Tamison, Tucson, Arizona
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Kush, David Joseph, Tempe, Arizona
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Zalat, Todd Eric, Phoenix, Arizona
Zarembinski, Christopher John, Tempe, Arizona
Zimmerman, Mary Beth, Tucson, Arizona
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