Arizona State University
Department of Anthropology Graduate Studies

PHYSICAL
ANTHROPOLOGY

Anthropological Genetics
Dental Anthropology
Functional Morphology
Health and Disease
Origin of Modern Humans

Primate Behavior and Ecology
Paleoanthropology
Peopling of the World
Skeletal Biology
GRADUATE STUDIES
IN PHYSICAL
ANTHROPOLOGY
AT ARIZONA STATE UNIVERSITY

DEPARTMENT OF ANTHROPOLOGY

MASTER OF ARTS IN ANTHROPOLOGY
DOCTOR OF PHILOSOPHY IN ANTHROPOLOGY

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The graduate program in physical anthropology at Arizona State University offers students opportunities in a broad range of fields including paleopathology, paleoanthropology, genetics, human biological variation, primate ecology and social behavior, functional morphology, bioarchaeology, and dental anthropology. The facilities for courses and dissertation research are excellent, including well-equipped dental, osteology and comparative anatomy laboratories; x-ray facilities, skeletal collections of African Nubians and American Indians; dental collections of American Indians, Aleuts, Eskimos, and several African and Oceanic peoples; the Albert A. Dahlberg collection of Pima Indian dental casts; and a large collection of A. afarensis and other fossil hominin casts. Opportunities are available for student participation in faculty field and museum research in Egypt, Ethiopia, South Africa, and South America. Research with faculty members on campus and near the university at the Primate Foundation of Arizona, the Phoenix Zoo, a private blood bank, at field sites in many parts of Arizona, and with the Department’s Office of Cultural Resource Management is also a possibility. Frequent anthropology colloquia, with presentations by faculty members, students, and visiting speakers, afford students a forum for discussion of current issues in the field and an opportunity for the development of mutual interests. Student interactions are further enhanced by an active local graduate student group, the Association of Anthropology Graduate Students (AAGS).

Study at ASU is also enhanced both by the diversity and fine quality of graduate programs and resources throughout the University as exemplified by ASU’s Research I status. The surrounding desert provides varied opportunities for recreation, and various locales in northern Mexico, the Grand Canyon, and Snowbowl are only a few hours away.

Frequent anthropology colloquia, with presentations by faculty members, students, and visiting speakers, afford students a forum for discussion of current issues in the field and an opportunity for the development of mutual interests. Student interactions are further enhanced by an active local graduate student group, the Association of Anthropology Graduate Students (AAGS), an ASU chapter of Lambda Alpha, the national anthropology honor society, and the Department’s Anthropology Club.
ADMISSIONS AND STUDENT SUPPORT

Prospective students are encouraged to correspond with faculty who share their interests. Applications and general information can be acquired by contacting the Department at the address and telephone numbers listed on the title page of this booklet. Persons who are interested in visiting the campus are encouraged to do so. If we are given some advance notice of the visit, we will be best able to arrange appointments with appropriate faculty members and with graduate students.

Admission to the program is based on procedures and policies of the Graduate College and the Department of Anthropology and is highly selective. Applicants must submit transcripts from previous universities attended, GRE scores, three letters of recommendation, and a statement of purpose. Foreign applicants must submit TOEFL scores, while GRE scores are optional.

With the approval of the student’s Supervisory Committee, the Department Chair, and the Dean of the Graduate College, a maximum of nine semester hours of coursework completed before admission may be applied to the program of study. Of these nine, only six hours from another institution can be applied.

The Department awards approximately 30 academic year, one-third time (13.4 hours per week) and one-half time teaching assistantships on a competitive basis. Stipends for these assistantships vary according to graduate standing and include remission of out-of-state tuition. Teaching assistantships for the following academic year are awarded annually on the basis of applications which are submitted by an announced deadline. A variable number of research assistantships are offered, depending on current research programs. A variable number of scholarships waive the out-of-state tuition or in-state fees.

Depending upon the availability of funds, student research may be supported through the Department’s Research Incentive Fund for up to $500 for students in Phase I of the Ph.D. Program and up to $1,000 for students in Phase II of the program. The Department also offers the possibility of employment in the Office of Cultural Resource Management (OCRM) and the Archaeological Research Institute (ARI). In addition to these resources, the University also offers loan programs. Applicants should consult the Graduate College for information on these sources of support.

Applicants who do not have an Anthropology Bachelor’s degree or who are applying after receiving an M.A. from another institution in anthropology or a related field may have some deficiencies noted on their admission letter from the Department. Students who are accepted into the graduate program with limited background in anthropology are generally required to make up deficiencies by taking courses in one or more subdisciplines. Approved courses for students with deficiencies are provided on a list entitled "Anthropology Background Courses Recommended for Graduate Students Lacking an Undergraduate Major in Anthropology," which is available from the Graduate Coordinator.

A student may fulfill a deficiency requirement by taking two undergraduate courses or one graduate-level course approved by his or her advisor or subdiscipline head. Further policy information will be provided upon entrance to the program. Subdisciplines and programs may have additional or overlapping course requirements outside the student’s main subdiscipline.
FACILITIES AND RESOURCES

BUILDINGS

Anthropology has a three-story building in the central part of campus which houses a museum, classrooms, offices, collections, and laboratories. A reading room is maintained for student use, and many course readings are kept on reserve there. The Community Services Building (Curry Road Facility) is located in Papago Park about one mile north of the main ASU campus. It offers a complex of facilities for the Office of Cultural Resource Management, additional faculty and student laboratories, and collections storage.

FIELDWORK

Physical anthropology faculty members conduct fieldwork in bioarchaeology, paleoanthropology, and primatology. These projects allow students to gain field experience in a variety of settings. Dr. Brenda Baker’s long-term association with the Pennsylvania-Yale-Institute of Fine Arts/NYU Expedition to Abydos, Egypt, provides field opportunities for students interested in bioarchaeology and human osteology. Future excavation and study seasons in both cemetery and settlement components at this site are planned. Dr. Kaye Reed directs a field school in paleoanthropology at Makapansgat, South Africa. In past field seasons, ASU graduate students have participated in this project as teaching assistants, gaining experience in faunal analysis, cave excavation and processing, and paleoecology. Other opportunities for field experience in paleoanthropology are available in Ethiopia and Israel. The Institute of Human Origins and faculty members Johanson and Kimbel continue fieldwork in Ethiopia in an area known for significant hominid fossils of A. afarensis. Reed and co-PI Charles Lockwood of University College, London, also have field opportunities at a locality in Ethiopia dated to ~ 3.0 Ma. Fieldwork in primate behavior and ecology is also possible with Dr. Leanne Nash in South Africa.

Field research in the Southwest, Mesoamerica, and around the Mediterranean is an active element in the archaeology graduate program. Summer field schools, academic year field courses, cultural resource management investigations, and individual research projects in the Southwest, some of them in the urban area, provide graduate students excellent training relatively close to Phoenix. An archaeological research center at Teotihuacan, Mexico houses more than a million objects and provides laboratory and living facility for up to ten persons. A similar facility in Zacatecas, Mexico serves as the headquarters for the La Quemada-Malpaso Valley Archaeological Project. The Department’s summer ethnographic field school in Ensenada, Baja California, Mexico provides opportunities for individual and collaborative research on a wide variety of topics. Students interested in applied anthropology gain field experience in the Phoenix area as part of a Practicum course. Sociocultural faculty research projects elsewhere in Arizona and the Southwest, Mexico, New Guinea, and the Philippines frequently involve students as well.

LABORATORIES AND EQUIPMENT

Laboratories and equipment available for student instruction and use include camera and video equipment, tape recorders, darkroom and drafting facilities, and map and records files. Archaeological facilities include ceramic study collections, palynology laboratory, faunal laboratory, wet laboratory, processing and conservation laboratories, field vehicles and tools, and surveying equipment. The Archaeological Research Institute curates extensive archaeological collections and has artifact laboratories and information technology facilities for related research. The physical anthropology program maintains well-equipped dental, DNA, osteology, and comparative anatomy laboratories, as well as an x-ray facility. The Department has a full-time research specialist for physical anthropology who oversees the diverse operations of the laboratories and preparation of the collections and who also assists students with projects involving these resources.
LIBRARIES
The Hayden and Noble (Science and Engineering) Libraries have grown steadily with the increasing emphasis on research at ASU. There are now more than 2 million volumes and 2 million microfilm units, and ASU’s collections appear on the list of the top 50 research libraries in the United States. Anthropological literature has enjoyed a high priority in the University library budget, both in regard to new books and in the purchase of back holdings. ASU is a member of the Association of American College and Research Libraries and has an active interlibrary loan program.

COMPUTER RESOURCES
A powerful array of computing resources is available to anthropology students at ASU. The University has a policy of open access to computing resources and universal e-mail for students. University-wide resources include UNIX servers, IBM and VAX mainframes, and a campus-wide microcomputer network with statistical and data management programs, e-mail, news and information, and software archives. The University supports microcomputer labs with DOS/Windows, Macintosh, and Unix workstations, along with printers, scanners, digitizers, and other equipment. The Anthropology Department maintains a graduate student computer lab, and an in-house local area network (LAN). All workstations in university and departmental labs are networked, with direct Internet access.

The Department’s graduate computer lab and LAN provide a wide variety of computer-based tools for anthropological research. The lab includes DOS/Windows and Macintosh workstations, a large format digitizing tablet, a wide format plotter, and dot matrix and laser printers. All workstations in the lab are connected to the departmental and university-wide network. Software maintained for departmental use includes word processing, statistical analysis, GIS, CAD, data management, image analysis, and Internet tools.

COLLECTIONS
Department physical anthropology resources include skeletal and worldwide dental cast collections, the Albert A. Dahlberg collection of Pima Indian dental casts, and access to a collection of chimpanzee skeletons through the Primate Foundation of Arizona. The Department also maintains archaeological collections estimated to number more than two million specimens, obtained in the course of systematic research at thousands of sites. Most of these materials are Southwestern, primarily from Arizona. There are also significant research collections from other areas of North America, Mesoamerica, and the Near East. In addition to archaeological materials, there are substantial ethnological and physical anthropological collections. Facilities for curation and study of these materials are available in the Anthropology Building. In addition to scholarly publications and technical reports, more than 100 theses and dissertations have been based wholly or in part on the department’s collections to date.

THE INSTITUTE OF HUMAN ORIGINS (IHO)
The Institute of Human Origins, founded in 1981 by Donald Johanson, is a multi-disciplinary research unit dedicated to the recovery and analysis of the fossil evidence for human evolution and the establishment of a chronological framework for human evolutionary events. IHO’s scientists carry out field research at sites in Africa, the Middle East, and Asia. The Institute houses the largest collection of Australopithecus afarensis casts in the world, as well as an extensive collection of other fossil hominid casts. IHO’s library contains more than 3000 volumes, numerous journals, videotapes, audiotapes, and slides related to human evolution and fossil sites. Education and training are among the IHO’s major commitments, and the Institute has fellowships available for outstanding graduate students at ASU. It also offers stipends to talented graduate students from the countries in which it does field research. IHO also provides ASU students, both graduates and outstanding undergraduates, opportunities to participate in paleoanthropological field research, at fossil sites in Africa, the Middle East and elsewhere, and to conduct research on the “hard” evidence for human evolution, employing its
collection of more than 1000 casts of fossil primates and its library. IHO also creates opportunities for volunteers in research and public outreach activities. IHO produces periodic newsletters, offers lecture series, conducts tours and workshops for teachers and students, maintains a website, serves as a continuing resource for science writers and journalists, and supports numerous informal science education outreach projects.

OFFICE OF CULTURAL RESOURCE MANAGEMENT

The Office of Cultural Resource Management (OCRM) is an archaeological research unit under the direction of Glen Rice that exists to serve archeological and cultural resource management needs of the public and private sectors, and to provide education and research opportunities for the students and faculty of the University. Student involvement in cultural resource management work is encouraged, as is the incorporation of data from projects in theses, dissertations or seminar papers. From 1977 to 1989 the Office of Cultural Resource Management undertook approximately 425 research projects totaling more than $5,000,000. In 1989 the Office began work on an eight-year long project with a budget of nearly $7,600,000 to excavate more than 100 Salado sites in the area of Roosevelt Lake. The Roosevelt project, co-directed by Glen Rice and Charles Redman, has continued the tradition of commitment to archaeological research, student training, and public education. The Office has its own publication series, Anthropological Field Studies, and reports are also published on occasion in the Department’s Anthropological Research Papers, as well as in major professional journals.

ARCHAEOLOGICAL RESEARCH INSTITUTE

The Archaeological Research Institute (ARI) is an archaeological repository and research unit that curates extensive archaeological collections, preserves archaeological materials and related data, pursues research activities associated with the archaeological record, and conducts educational programs to disseminate knowledge of the past to Arizona’s citizens. The Archaeological Research Institute encourages and facilitates Native American involvement and training in collections management and museum operation. ARI curates more than 70,000 specimens from excavations in central Arizona (Bureau of Reclamation sponsored Central Arizona Project; dam modification projects for Roosevelt, Bartlett, and Horseshoe Dams). ARI supports several research assistantships for graduate students that involve assisting the senior staff with collections management, archive and database management, and materials analysis and environmental research. Several reference collections, including ceramic type collections and faunal comparative collections, are available for use in research.

MUSEUM OF ANTHROPOLOGY

The Museum of Anthropology, established in 1961, is located in the Department of Anthropology. The museum plays a major instructional role in the Museum Studies Program. It includes a 2,650 square foot exhibit gallery in which Museum Studies students are encouraged to curate exhibitions, develop educational programs, and conduct visitor behavior studies. In addition to the main gallery, exhibits concerning faculty and student research are located throughout the entire building. A drafting room provides space for exhibit design and planning, and a workshop adjacent to the main gallery is used for exhibit construction.

DEER VALLEY ROCK ART CENTER

The Deer Valley Rock Art Center preserves and interprets the Hedgpeth Hills petroglyph site. The Center includes a gallery, interpretive trail, and a research center for rock art study. Interpretive presentations in the gallery and along the path engage visitors in the dynamic process of learning about the past. With more than 1,500 ancient marks concentrated on the lower slopes of Hedgpeth Hills, this is the largest concentration of petroglyphs in the Phoenix metropolitan area. The site is easily viewed from a barrier-free quarter-mile path that winds through a 47-acre desert preserve.
PRISM
An interdisciplinary laboratory for 3D data acquisition, visualization and modeling, and form realization exists in the form of PRISM (Partnership for Research in Stereo Modeling). Laser digitizers in the laboratory are available for imaging 3D surfaces such as joints, and software has been written with which to measure areas and curvatures of the surfaces.

OTHER CAMPUS MUSEUMS
The University Art Museum presents a wide array of changing exhibits, drawing from both its excellent permanent collection and from other sources. Collections are housed and exhibited in the Nelson Fine Arts Center and Matthews Center. The Museum of Geology, in the Physical Science Complex, displays minerals, gems, fossils, and shells from around the world. A variety of other exhibits can be found in the University Libraries, the Archives, the Memorial Union, Grady Gammage Auditorium, and other campus locations.

PUBLICATIONS
Scholarly monographs have been edited and published by the Department since 1969. They include two series: Anthropological Research Papers (ARP) and Anthropological Field Studies (AFS). ARP publishes original scholarly work in all branches of anthropology and has a wide range of contributors, both from ASU and other institutions. The AFS is devoted primarily to publishing OCRM research.

RESEARCH CENTERS AND INTERDISCIPLINARY PROGRAMS
The University contains a number of interdepartmental programs and research centers that serve the interests of both students and faculty. Those of greatest interest to anthropologists include:
- Center for Environmental Studies
- Arizona Center for Medieval and Renaissance Studies
- Institute for Studies in the Arts
- Center for Asian Studies
- Center for Latin American Studies
- Hispanic Research Center
- Center for Bilingual/Bicultural Education
- Center for Indian Education
- Women’s Studies Program
- Program for Southeast Asian Studies
Descriptions of all these centers and programs can be found in the University’s General Catalog. Of special interest to anthropologists are the research grants and fellowships awarded on a competitive basis by the Center for Latin American Studies and the Program for Southeast Asian Studies. A number of these awards have gone to anthropology graduate students in recent years.
THE ACADEMIC PROGRAM

The Physical Anthropology MA/PhD program is designed for students ultimately pursuing a Ph.D. The program prepares students for full scholarly participation in the profession. Students must fulfill the Arizona State University Graduate College requirements concerning the number of credit hours, deadlines, and submission of various forms. The Graduate College publishes detailed descriptions of these requirements. The Anthropology Department’s procedures for achieving the Ph.D. are described below. It is the student’s responsibility to read these documents carefully and follow these procedures meticulously.

PHASE ONE

Phase I of the Ph.D. program should be completed within two years. Students are assigned a faculty advisor in the first semester if they have not previously corresponded with a potential advisor. Students may change advisors at any time if they wish. Under the supervision of the advisor, new students plan a program of study which takes into account their undergraduate background, future goals, specific subjects of interest and requirements of the Anthropology Department and Graduate College. Phase I requires 30-34 credit hours of course work and research.

Selection of a range of core courses in Phase I of the program is designed to provide both a fundamental background beyond the student’s principal area of physical anthropological inquiry, and a beginning point for research concentration. Most of these core courses require the student to prepare and present research comparable to that required for presentation at professional meetings. These projects should be of limited scope and should involve problem formulation, data gathering, analysis and hypothesis testing, interpretations, and conclusions. Research projects take the form of written papers, oral presentations, or both depending on the course. Students are encouraged to expand on these projects and present them at the AAPA or other meetings and/or submit them for publication. These preliminary research projects help students prepare for dissertation-level research, and students may also develop dissertation topics out of these initial investigations. It is highly recommended that one of these projects become the publishable paper for the MA degree. Please note that students involved in the Bioarchaeology concentration cannot use the Group 7 Bioarchaeology course as one of their core courses.

CORE COURSE GROUPS:

1: Skeletal Biology
   Human Osteology (4)
   Dental Anthropology (4)

2: Paleoanthropology
   Paleoanthropology (4)
   Primate Paleobiology (4)

3: Paleopathology
   Paleopathology (3)
   Infectious Disease (3)

4: Primatology
   Primatology (3)

5: Genetics
   Gene & Human Evolution (3)
   Human Genetics (3)

6: Functional Morphology
   Primate Functional Morphology (4)
   Anatomy and Biomechanics (6)

7: Bioarchaeology
   Prehistoric Diet (3)
   Bioarchaeology (3)
CURRICULUM FOR PHASE I OF THE MA/PHD
IN PHYSICAL ANTHROPOLOGY

PHASE I:
Topics in Physical Anthropology, 3 credits
4 core courses (choose one class each from four of seven groups), 12-16 credits
1 statistics course, 3-4 credits
1 cross-disciplinary course (either intra or inter departmental), 3-4 credits
1 elective, 3-4 credits
Research credits, 6 credits
Completion of publishable paper

TOTAL COURSE CREDITS REQUIRED: 30

Statistics: The statistics requirement should be satisfied by at least one upper division or graduate level course, which is selected in consultation with one’s advisor. The statistics course is most valuable taken in one of the student’s first three semesters. Students who can demonstrate that they had a comparable course upper division statistics course as an undergraduate may be considered to have satisfied the statistics requirement. This will require presenting materials (e.g., text, syllabus, etc.) to the Physical Anthropology subdiscipline faculty to judge the equivalency of that course. The student should ensure that an approved memo of petition is placed in the student’s file.

Course Exemptions: Requirement exemptions for students with a heavy undergraduate concentration in one or more topic areas can be made by a petition submitted for approval through the advisor to the entire subdiscipline faculty. If granted, the student should ensure that an approved memo of petition is placed in the student’s file.

Publishable paper: Students are required, in conjunction with their MA Committee to produce a publishable paper based on accomplished research. Students are encouraged to develop this research project from one of their course projects by presenting the committee with a short proposal of the hypothesis to be tested, the methods for testing the hypothesis, and the data that will be used or collected. The committee will approve the proposal and if necessary, confer with the student during a regular committee meeting. The paper must be written in the format required of a national, peer-reviewed journal (e.g., American Journal of Physical Anthropology). Students will present an AAPA style presentation of this research to the public and their committee, and orally defend the paper. This paper must be submitted to the department in order to receive the MA.

NORMAL PROGRESS THROUGH THE PROGRAM

Phase I ends with completion of all course work for Phase I, and the defense and submission to the department of the publishable paper. Students will write a brief statement concerning their research interests and their desire to continue to the PhD phase of the program. This statement should be submitted to the Graduate Coordinator who will circulate it to the physical anthropology faculty for approval to continue with Phase II.

Admission directly into Phase II for students with an MA from another institution. In addition to an MA degree from elsewhere, acceptable letters of recommendation and adequate scores in previous courses and graduate record examinations are needed to apply directly to Phase II. A copy of an applicant’s thesis or publishable paper (or an evaluation of that thesis or paper) should accompany a Ph.D. application. If this degree does not include the equivalent of the course curriculum described above for Phase I in the ASU Ph.D. program, then the entire Physical Anthropology faculty will determine which courses need to be taken. Students are encouraged to petition for waiver of any of
these courses for which they feel they have had equivalents. Completion of that course work with a grade of “B” or better will be a condition for completion of the Ph.D. program.

Upon entering Phase II of the Ph.D. program, the student organizes a committee of at least three members, under the guidance of an advisor. Full-time members of the Department of Anthropology faculty must comprise the majority of the committee, but scholars in the student’s area of specialization from other ASU departments and other institutions may be included. This committee, which must be approved by the Department’s Graduate Committee, guides the student through the program and is responsible for judging his/her performance at all stages.

**Phase II Requirements**

During Phase II, the student will complete additional courses in Physical Anthropology that were not taken during Phase I. A Program of Study is developed in conjunction with the committee, which is either the same as the Phase I committee, formed soon after students arrive when admitted directly into Phase II, or formed before or soon after students begin Phase II. Two field statements are required, as well as an orally defended, written proposal of the dissertation. It is expected that this phase of the program, leading to advancement to candidacy, will take two years.

**Phase II: Minimum of 54 credit hours beyond Phase I**

Including, but not limited to:

- Proposal writing course, 3 credits
- 1 core course from additional group not taken in PHASE I OR 1 cross-disciplinary course, 3 credits
- 3 electives in area of concentration, 12 - 16 credits
- Dissertation minimum research, 18 credits, (12 of which must be taken post advancement to candidacy)
- Two written field statements
- Written dissertation proposal (in NSF dissertation improvement grant proposal format)
- Ph.D. oral comprehensive exam/proposal defense
- Foreign language (at discretion of committee members)
- Public, oral defense of Ph.D. dissertation consisting of a 45-50 minute presentation of research followed by questions from committee members and general audience.

Courses are selected for the program of study that are relevant to the concentration selected by the student (see below). See also, “Procedures for the Preparation of Field Statements and Dissertation Proposals in Physical Anthropology,” available in Graduate Coordinator’s office.)

**Field Statements and Dissertation Proposal**

**Field Statement Proposals:** Prior to beginning work on field statements, students should prepare and obtain committee approval of a brief (1-2 page) proposal containing the tentative title and proposed contents of each statement, and an explanation of how the fields relate to the anticipated dissertation project. Committee approval should be recorded as indicated on the appropriate form.

**Field Statement Outlines and Bibliographies:** Following approval of the field statement proposal, students should write an outline and reasonably complete bibliography for the major field statement. The same protocol will be followed for the minor field statement. Committee approval of each statement should be recorded as indicated on the appropriate form.
**Field Statements:**  Committee chairs will be responsible for accepting various drafts of the field statements and helping students refine the document. A final revision of the draft is circulated to the committee for approval.

**Dissertation Proposal:**  Students write a dissertation proposal in NSF Dissertation Improvement grant format. Committee chairs will be responsible for accepting various drafts of the dissertation proposal and helping students refine the document. A final revision of the draft is circulated to the committee for approval.

**Time Schedule:**  Students are expected to write and obtain approval of the first (major) field statement during the first year of the Phase II physical anthropology graduate program. Preparation, approval, and defense of the dissertation proposal should be completed by the end of the second year of Phase II. The second field statement may be completed either before or after the proposal defense, but the expectation is that students will be advanced to candidacy by the end of the second year of Phase II, i.e., on completion of all three documents.

**PERIODIC EVALUATIONS**

A student’s performance will be evaluated each year by the subdiscipline faculty on the basis of faculty reviews and the student’s own annual written self-evaluation. The evaluation findings will be transmitted to the student in writing from the subdiscipline head. The evaluation is guided by the Anthropology Department’s criteria of evaluation of graduate student progress through the graduate program. A written document with these criteria is distributed to all students upon their arrival at ASU. The criteria include course performance, rate of progress toward the degree, development of professional skills (field work, participation in workshops, language training, service to the Department, etc.) and professional accomplishments (publication, papers presented at meetings, etc.).

**POLICY ON I (INCOMPLETE) GRADES**

Faculty may grant an “I” only when a student who is doing acceptable coursework is unable to complete a course because of illness or other extenuating conditions. Concurrent with University policy, an “I” must be completed with the same instructor within one calendar year or it will be automatically changed to a failure (E). The Graduate Committee will not ordinarily award TAships to students with outstanding Incomplete (excluding “Z” grades in thesis, dissertation and research hours). When the circumstances surrounding an Incomplete do not merit denial of a TAship to an otherwise meritorious students, exceptions to this policy may be made upon petition from the subdiscipline supporting the student in question.

**NOTES**

1. Any course used to fulfill Phase I (M.A.) requirements cannot also be applied to the Ph.D. program of study. Electives in the area of concentration, therefore, cannot be courses taken to satisfy core requirements in Phase I or II.

2. A cross-disciplinary course can be any course outside of physical anthropology, including archaeology or cultural anthropology courses, and courses in other disciplines appropriate to the student’s research interests.

3. Courses in a student’s program of study must be chosen in consultation with the advisor/committee.
DOCTOR OF PHILOSOPHY IN ANTHROPOLOGY
(AREAS OF CONCENTRATION)

Resources for the study of physical anthropology at ASU are particularly strong in the areas in which members of the faculty are actively involved. These areas are also the focus of collaboration with other faculty members both within and outside the Anthropology department. Since these areas provide the most extensive opportunities for student course work, research, and interdisciplinary study, an introduction to each follows, providing information about facilities, research opportunities, and relevant courses. The interests of physical anthropology faculty are below and the faculty can assist student in identifying relevant faculty in other subdisciplines in anthropology (see brochure: Graduate Studies, Department of Anthropology, ASU) and in other academic units (e.g. Biology, Exercise Science and Physiology, Chemical, Bio and Materials Engineering, Nursing, Psychology, Geology). The student’s committee chair will assist in identifying other relevant committee members.

These comments are offered as a guide to students in selecting research fields and elective courses for the M.A. and Ph.D. programs, but do not define the limits of study in physical anthropology at ASU. Students’ interests may lead to alternative groupings of courses during Phase II, which bridge areas or extend beyond them. These are recommendations rather than requirements.

HEALTH AND DISEASE
(Paleopathology, Disease Ecology, Medical Genetics, Medical Anthropology, Epidemiology, Demography)

It is generally acknowledged that disease has played a significant role in human evolution, but the parameters of this role are still poorly understood. Those disease processes that affect bones and teeth leave an imprint on the archaeological record which can be interpreted by the paleopathologist, an individual with training in human osteology and dental anthropology as well as pathology, epidemiology, medical genetics, etc. The study of health and disease in living primates may also provide important insight in assisting us to reconstruct our past. Although illness in humans is basically the same as that in other animals, the human response to illness, especially at the societal level, is indeed unique. Humans attempt to interpret illness and learn causes (often supernatural), and humans display concern for the victim and cooperate to bring him back “into balance with nature.” Even the simple presence of a “home base,” where a sick or injured person can rest while being supplied with food and protected from predators, gives humans a great advantage over their primate relatives. This concentration is aimed at understanding the importance of illness (including aging) to human existence, past and present, and how society accommodates itself to the presence or threat of illness. It is also relevant to some very timely topics in the health sciences, disease ecology, holistic medicine, and medical genetics.

Anthropology courses
- Human Osteology
- Infectious Disease and Human Evolution
- Social Issues in Human Genetics
- Human Biological Variation
- Paleopathology
- Dental Anthropology
- Skeletal Trauma
- Ecological Anthropology

Resources: Large skeletal collections of Nubians and Native Americans, and an x-ray facility.
PALEOAANTHROPOLOGY

The collection, identification and analyses of primate, hominin and associated fossils fall under the domain of paleoanthropology. This concentration is aimed at understanding the taxonomy, phylogenetic systematics, behavioral ecology, and possible culture of our prehistoric ancestors.

Anthropology courses:
  - Paleoanthropology
  - Primate Paleobiology
  - Anatomy & Biomechanics
  - Comparative Primate Anatomy
  - Human Osteology
  - Advanced Human Osteology
  - Dental Anthropology
  - Pattern and Process in Human Evolution
  - Paleoecology and Zooarcheology I & II
  - Primatology
  - Old World Prehistory

Selected courses in other departments:
  - Biomechanics
  - Biometry
  - Principles of Stratigraphy
  - Systematic Zoology
  - Field Geology

Resources: Faculty associated with the Institute of Human Origins provide opportunities to participate in paleoanthropological field research at fossil sites in Africa, the Middle East and elsewhere, and to conduct laboratory research on the “hard” evidence for human evolution, employing its collection of more than 1000 casts of fossil hominids and its 3,200+ volume research library. Due to the interdisciplinary nature of paleoanthropology, students can focus on various aspects of paleoanthropology such as phylogenetic systematics, functional morphology, and paleoecology. Courses and committee overlap in Old World archaeology is also possible.

Biomechanics, electron and scanning probe microscopy, and 3D imaging and prototyping facilities are located on campus. The comparative anatomy laboratory houses primate skeletal material. In addition, the department maintains extensive collections of human skeletal and dental material, and a collection of fossil casts. X-ray, dissecting microscope and photography/darkroom facilities are available in the department.

ANTHROPOLOGICAL GENETICS

Anthropological genetics is broadly defined to combine such diverse topics as human variation, human development, population genetics, evolutionary biology, and ancient DNA studies.

Anthropology courses:
  - Dental Anthropology
  - Human Biological Variation
  - Human Osteology
  - Social Issues in Human Genetics
  - Human Genetics
Selected courses in other departments:
  Organic Evolution
  Molecular Genetics
  Advanced Genetics Seminar
  Molecular and Cellular Biology Seminar
  Applied advanced statistics courses

Additional recommended courses are: Bacterial Genetics, Developmental Genetics, Populations: Evolutionary Genetics, Populations: Evolutionary Ecology, Techniques in Evolutionary Genetics. Courses in calculus, biochemistry, and biometry are also required. Students lacking in this background must compensate during graduate training.

**PRIMATE FUNCTIONAL MORPHOLOGY**

The study of the evolution of form and function in primate musculo-skeletal systems combines comparative and experimental methods of analysis, often together with aspects of behavioral ecology. Morphology is studied by means of dissection, analyses of bones and fossils, and X-rays. Functional analysis can be carried out through force plate, EMG and other processes that integrate facilities and faculty in the Departments of Kinesiology and Bioengineering.

Anthropology courses:
  Primate Functional Morphology
  Anatomy and Biomechanics
  Comparative Primate Anatomy
  Primate Paleobiology
  Primatology
  Primate Behavior Laboratory
  Paleoanthropology
  Human Osteology
  Advanced Human Osteology
  Computerization and Visualization

Selected courses in other departments:
  Introduction to Biomechanics Research Methods
  Advanced Topics in Biomechanics
  Biomechanics
  Biocontrol Systems
  Topics in Biomechanics

**Resources:** The Anthropology Department has an anatomy laboratory with dissection stations, dissecting microscopes (one with a camera attachment), freezers for specimens and a skeletal collection. There is also a facility in the laboratory for stereophotogrammetry, which is used for imaging and analysis of joint surface topography. It includes a digital camera and software for digitizing the images and for measuring joint curvatures and areas. Students are encouraged to use the ASU interdisciplinary laboratory for 3D data acquisition, visualization and modeling, and form realization at PRISM (Partnership for Research in Stereo Modeling). Laser digitizers in the laboratory are available for imaging 3D surfaces such as joint surfaces, and software has been written with which to measure areas and curvatures of the surfaces. Collaborative laboratory and computer simulation projects are conducted with faculty in the Bioengineering Program of the Department of Chemical, Bio and Mechanical Engineering and in the Exercise Science and Research Institute of the Department of Kinesiology.
PRIMATE ECOLOGY AND SOCIAL BEHAVIOR,
AND THE EVOLUTION OF HUMAN SOCIAL BEHAVIOR

Anthropology courses
  Primatology
  Primate Behavior Laboratory
  Comparative Primate Anatomy
  Quantitative Methods
  Paleoanthropology
  Primate Paleobiology
  Primate Functional Morphology
  Primate Communities

Seminars on special topics

Selected courses in other departments
  Advanced Conservation Biology I/II
  Biometry
  Animal Ecology
  Research Techniques in Animal Behavior
  Mammalogy
  Scientific Data Presentation
  Quantitative Ecology
  Seminars on Relevant Topics
  Applied advanced statistics courses

Resources: We maintain informal ties with the Primate Foundation of Arizona, a nonprofit foundation for the breeding of chimpanzees. The Foundation houses a large number of animals in social groups. The animals are available for approved behavioral research. The Phoenix Zoo also has a good collection of primates. There are social groups of several primate species in which breeding is taking place and where approved studies are possible. The world Wildlife Zoo offers added opportunities. There are a number of faculty in the Zoology Department with interests in behavior and ecology, including Dr. John Alcock and Dr. Andrew Smith. ASU has excellent computer facilities available for student projects. The Anthropology Department owns an electronic behavior recording system, which will interface directly with the computer.

HUMAN OSTEOLGY

The human skeleton is frequently preserved long after other parts of the body have decomposed. At archaeological sites, skeletons are thus usually the only direct evidence we have of the people who actually created the sites. The objective of this concentration is to understand human biology through the study of the human skeleton and dentition. A basic knowledge of skeletal and dental anatomy makes it possible to distinguish between human and animal remains and to identify specific bones and teeth, and even fragments thereof. Skeletal-dental traits are also used to determine the age at death and sex of individuals, thus making it possible to reconstruct the demography of ancient populations. Skeletal-dental traits may also be employed to determine the genetic relatedness of various populations, and to establish behavioral patterns and the general health of ancient populations. Current research on isotopes found in bone have even allowed some dietary reconstructions. Present-day forensic work is also dependent upon human skeletal-dental biology, this being particularly true of cases involving identification. Although dealing primarily with the human skeleton, it should be noted that this concentration also includes the analysis of soft tissues preserved through mummification as well as indirect human remains such as coprolites.
Anthropology courses
  Human Osteology
  Advanced Human Osteology
  Bioarchaeology
  Paleopathology
  Dental Anthropology
  Infectious Disease and Human Evolution
  Non-infectious Disease
  Anatomy & Biomechanics
  Forensic Anthropology
  Skeletal Trauma

Selected courses in other departments
  Biometry
  Scanning Electron microscopy
  Topics in Biomechanics

**Resources:** Large collections of human skeletons (primarily Native American and Nubian), dental casts (see above), x-ray facilities with extensive library of radiographs, and general skeletal laboratory facilities.

**BIOARCHAEOLOGY**

The Bioarchaeology concentration is designed to train students specifically in the synthesis rather than simply the juxtaposition of archaeological and physical anthropological methods and theories for studying past cultures and human adaptation. A flexible curriculum that allows the integration of diverse studies, and a holistic, ecological perspective are key strengths in our approach. Students have the opportunity to study and integrate a wide range of processes, including biological, environmental, demographic, economic, social, political, taphonomic, and ideational ones, at regional and local scales. Courses on theory and data are given in the bioarchaeological perspective itself, including ecological and economic anthropology, human demography, social organization, and ideation of death.

Anthropology Courses
  Paleopathology
  Method and Theory of Archaeology I or II
    or Complex Society
    or Chiefdoms
  Mortuary Analysis
  Prehistoric Diet
  Human Osteology
  Physical Anthropology Elective*
  Statistics
  General Elective*
  Thesis Research

*Electives in the Bioarchaeology Program are normally selected from required core course groups in the Masters-Doctoral streams of either Archaeology or Physical Anthropology depending on the student’s interests and orientation toward one or the other of these subdisciplines.
DENTAL ANTHROPOLOGY

Arizona State University is internationally known for its research and resources in dental anthropology. The major current activities are in developing the use of dental morphology for characterizing past and present populations and assessing population origins and relationships; the identification of new dental marker traits; standardization of trait variation; dental microevolution; dental paleopathology; and dental genetics.

Anthropology courses:
- Dental Anthropology and Laboratory
- Paleopathology
- Human Biological Variation
- Peopling of the World
- Paleoanthropology

Selected courses in other departments:
- Organic Evolution
- Developmental Biology
- Biometry

Resources: A fully equipped dental anthropology laboratory, three dental and skeletal collection areas, an x-ray facility, and a computer room are part of the physical resources available for advanced dental anthropology study at ASU. The University library obtains all major publications in dental anthropology and closely related areas. Central to graduate and faculty research are the 15,000 world-wide dental casts and crania. The heart of this comparative resource is the 9000-cast Albert A. Dahlberg Pima Indian collection and related genealogies. Other representative series include Hopi; Navajo; Papago; Tewa; Aleut; Eskimo; Chinese; Pacific basin peoples from Easter, Hawaii, Yap, New Britain, Philippines, and Solomon Islands; Asiatic Indians; Bushmen; Bantu; and Whites.
FACULTY

Prospective students are encouraged to correspond with faculty who share their interests. General information can also be acquired by writing to the chair of the subdiscipline. Persons who are interested in visiting the Arizona State University campus are encouraged to do so. If we are given some advance notice of the visit, we will try to arrange appointments with appropriate faculty members and with graduate students.

Physical Anthropology Faculty

Brenda J. Baker (Ph.D., Massachusetts, Amherst 1992; Assoc. Prof.) has principal research interests are in bioarchaeology, human osteology and paleopathology. Her specialty is examining human skeletal remains to reconstruct past lifeways and the health status of ancient people. Dr. Baker has participated in excavations in the southwestern, midwestern, and northeastern US and in Egypt. She has been the Physical Anthropologist for the University of Pennsylvania Museum-Yale University-Institute of Fine Arts, New York University Expedition to Abydos since 1988, conducting burial excavation and analysis of human remains from both cemetery and settlement contexts at this site. Other research interests include the impact of contact between Europeans and Native Americans through analyses of health status and mortuary practices, and the differential diagnosis of disease in past populations, particularly concerning treponematosis and tuberculosis. Dr. Baker did her undergraduate work at Northwestern University and her graduate training at the University of Massachusetts, Amherst. Her dissertation was on Collagen Composition in Human Skeletal Remains from the NAX Cemetery (A.D. 350-550) in Lower Nubia. Brenda Baker has also taught at Tufts University (1992) and Moorhead State University (1993-94) and was director of the repatriation program and Curator of Human Osteology at the New York State Museum from 1994-1998. She is currently collaborating on a book on The Osteology of Infants and Children, building on her experience with well-preserved subadult burials in Egypt. She has published extensively on paleopathology (e.g., Baker BJ, Armelagos GJ. 1988. The Origin and Antiquity of Syphilis: Paleopathological Diagnosis and Interpretation, Current Anthropology 29(5):703-737; Baker BJ. 1999. Early Manifestations of Tuberculosis in the Skeleton. In Tuberculosis: Past and Present, edited by Gy’rgy P<afi, Olivier Dutour, Judith De<k, and Imre Hutás, pp. 299-307. Golden Book and Tuberculosis Foundation, Szeged, Hungary), the consequences of contact (e.g., Baker BJ, Kealhofer LK, eds. 1996. Bioarchaeology of Native American Adaptation in the Spanish Borderlands. University Press of Florida, Gainesville), and on her work in Egypt (e.g., Baker BJ. 1997. Contributions of Biological Anthropology to the Understanding of Ancient Egyptian and Nubian Societies, in Anthropology and Egyptology: A Developing Dialogue, edited by Judith Lustig, pp. 106-116. Monographs in Mediterranean Archaeology 8. Sheffield Academic Press, Sheffield, England). Email: <BrendaJ.Baker@asu.edu>

Donald C. Johanson (Ph.D. University of Chicago, 1974; Prof.) is Director of the Institute of Human Origins and Professor of Anthropology. For the past 30 years he has conducted field and laboratory research in paleoanthropology. His field research has focused primarily on Ethiopia and Tanzania, but he has also done exploration in Jordan, Saudi Arabia, Yemen, and Egypt. He is best known because of his discovery of a 3.18 million year old partial skeleton known as “Lucy”, which he and colleagues placed in a new species in 1978: Australopithecus afarensis. He research interests focus primarily on Plio-Pleistocene hominid evolution in Africa—the australopithecines and the emergence of the genus Homo. He is also interested in dental anthropology—specifically African pongid odontology. He has published widely in Nature, Science, the American Journal of Physical Anthropology, and the Journal of Human Evolution (see Kimbel entry for latest publications). Dr. Johanson is committed to public outreach and bringing the science of paleoanthropology to as wide an audience as possible through public lectures, television and popular books, and recently launched award-winning web site www.becominghuman.org. He has co-authored seven books including Lucy: The Beginnings of
William H. Kimbel (Ph.D. Kent State 1986, Prof.) is Science Director in the Institute of Human Origins. He conducts field, laboratory, and theoretical research in paleoanthropology, in which his primary focus is Plio-Pleistocene hominid evolution in Africa. He has undertaken field and/or laboratory research in Ethiopia (Hadar) and Tanzania (Olduvai Gorge), as well as Kenya, South Africa, and Tunisia. He also has research interests in Late Pleistocene hominid evolution and has collaborated with Israeli colleagues in excavations in the Middle Paleolithic Neandertal-bearing cave of Amud. On the theoretical side, Kimbel is interested in the application of evolutionary and systematic theory to paleoanthropological problems. Kimbel is co-editor (with L. Martin) of Species, Species Concepts and Primate Evolution (Plenum, 1993). Recent publications include: The Skull of Australopithecus afarensis (Oxford University Press, 2003, with Y. Rak and D. Johanson); Temporal trends and metric variation in the mandibles and dentition of Australopithecus afarensis. J. Human Evol., 2000 (with C. Lockwood and D. Johanson) Systematic Position of a Maxilla of Homo from Hadar, Ethiopia (with D. Johanson, and Y. Rak), American Journal of Physical Anthropology, 1997; Hominid Speciation and Pliocene Climatic Change, in Paleoclimate and Evolution, with an Emphasis on Human Origins, 1995; Hominid Remains from Amud Cave in the Context of the Levantine Middle Paleolithic (with E. Hovers, Y. Rak, and R. Lavi), Paléorient, 1995; The First Skull and Other New Discoveries of Australopithecus afarensis from Hadar, Ethiopia (with D. Johanson and Y. Rak), Nature, 1994. Kimbel is currently Joint Editor of the Journal of Human Evolution.


Charles F. Merbs (Ph.D. Wisconsin, Madison 1969; Prof.). Human osteology, disease ecology, paleopathology, forensic anthropology; mortuary practices; North and South America (especially Canadian Arctic and American Southwest), and Africa (Nubia). Current research is focused on the etiology of congenital and developmental problems, the relationship of degenerative pathology to behavior, and the effects of trauma on the skeleton. Vice President of the Paleopathology Association and Research Associate at the San Diego Museum of Man. Selected publications include: “Spondylolisthesis and spondylolisthesis: A cost of being an erect biped or a clever adaptation,” Yearbook of Physical Anthropology, 1996; “Incomplete spondylolisthesis and healing: A study of ancient Canadian Eskimo skeletons,” Spine, 1995; and “A New World of Infectious Disease,” Yearbook of Physical Anthropology, 1992.

Leanne T. Nash (Ph.D. UC Berkeley 1973; Prof.). Primatology; social behavior and ecology of primates; nocturnal prosimians; socialization; foraging adaptations; experimental analysis of behavior. Research currently focuses on the ecology and social interactions of nocturnal primates in captivity and in Africa and Madagascar, especially on infant development and on diet. Previous work has been on the ecology and social development of wild baboons in Gombe National Park, Tanzania. Selected publications


Anne C. Stone (Ph.D. Pennsylvania State University, 1996; Associate Prof.) specializes in human and chimpanzee population genetics and evolution. Her current interests include Y chromosome variation in chimpanzees and bonobos, human population history in the central Andes, and genetic susceptibility to tuberculosis in South American populations. Selected publications include: High levels of Y-chromosome nucleotide diversity in the genus Pan troglodytes. Proceedings of the National Academy of Sciences, USA (2002); MtDNA analysis of a prehistoric Oneota population: implications for the peopling of the New World, American Journal of Human Genetics, (1998); Neandertal DNA sequences and the origin of modern humans, Cell, (1997); Sex determination of ancient human skeletons using DNA, American Journal of Physical Anthropology, (1996).

Christy G. Turner II (Ph.D. Wisconsin, Madison 1967; Regents’ Prof.). Turner has focused his research efforts in dental anthropology (especially the origin and dispersal of anatomically modern humans and reconstructing the peopling of the Pacific Basin and adjoining areas using dental morphology), and in the taphonomy and bioarchaeology of violence and cannibalism (mainly in the Southwest and Mexico). His other research attempts to understand the relations between diet (especially maize) and disease in teeth and porotic hyperostosis. His human origins and dispersal research has involved data collecting throughout the world, with several field trips to the former USSR. This research has been made possible with numerous grants, and has been reported in more than 150 articles, reports, commentaries, and monographs. Recent examples: The Anthropology of Human Teeth: Dental Morphology and Its Variation in Modern Human Populations (with G. Richard Scott), 1997; University of Cambridge Press, Cambridge; and Man Corn: Cannibalism and Violence in the Prehistoric American Southwest (with Jacqueline A. Turner, 1999) University of Utah Press, Salt Lake City.
Robert C. Williams (Ph.D. Michigan 1976; Prof.). Williams is an anthropological geneticist whose primary research area is the genetics of the American Indian. His paper on the Gamma marker (Gm) polymorphism in Native American populations (1985) is one of the first, and definitive, population reports in support of the 3-migration hypothesis across the Bering Land Bridge. He has also been active in defining the variation at the human histocompatibility loci in the American Indian (1992), and in applying techniques for measuring genetic admixture to the study of gene flow in human populations (1994). He is the Research Director of the Histocompatibility Laboratory at Blood Systems, Inc., in Scottsdale, Arizona, and a research associate of the National Institute of Diabetes, Digestive, and Kidney Diseases in Phoenix, Arizona. Selected publications include: “Gm allotypes in Native Americans: Evidence for three distinct migrations across the Bering Land Bridge” (with others), American Journal of Physical Anthropology, 1985; “HLA class II variation in the Gila River Indian Community of Arizona: Alleles, haplotypes, and a high frequency epitope at the HLA-DR locus” (with J.E. McAuley), Human Immunology, 1992; and “Measuring genetic admixture in human populations: The Gila River Story,” Evolutionary Anthropology, 1994.

PHYSICAL ANTHROPOLOGY STAFF

Diane E. Hawkey (Ph.D. Arizona State 1998; Staff Senior Research Specialist/Curator of Physical Anthropology Collections).

OTHER FACULTY IN THE DEPARTMENT OF ANTHROPOLOGY

Donald M. Bahr (Ph.D., Harvard 1969; Prof.) Social anthropology, religion, linguistics; U.S. Southwest, Mesoamerica.

C. Michael Barton (Ph.D. Arizona 1987, Prof.). Geoarchaeology, hunter-gatherers, lithic technology, computer applications and GIS, evolutionary theory; Old World (Mediterranean) and western North America.

Elizabeth A. Brandt (Ph.D., Southern Methodist 1970; Prof.) Sociocultural anthropology, linguistics, sociolinguistics, Native American languages, literacy, field methods, gender; U.S. Southwest.

Christopher G. Carr (Ph.D. Michigan 1979; Prof.). Archaeology, method and theory, quantitative analysis, philosophy of analysis, ecology, cross-cultural thanatology, soils, ceramics; eastern U.S.

John K. Chance (Ph.D. Illinois 1974; Prof.) Social anthropology, ethnohistory, political economy; colonial societies, Mesoamerica.

Geoffrey A. Clark (Ph.D. Chicago 1971; Regents’ Prof.). Archaeology, Old World prehistory, paleoecology, statistical applications, human evolution; Spain, Western Europe, the Near East.


James F. Eder, Jr. (Ph.D., UC Santa Barbara 1974; Prof.) Social anthropology, ecological anthropology, development; Southeast Asia, Philippines.

Steven E. Falconer (Ph.D. Arizona 1987; Assoc. Prof.). Archaeology, complex societies, preindustrial urbanism and ruralism, settlement patterns, polity formation, human-environmental interaction; Near East.

Nora Haenn (Ph.D. Indiana 1998; Asst. Prof.) has research interests in cultural ecology, political and household economy, development anthropology, migration, and questions of justice in Mexico, Latin America, and Phoenix.
Michelle Hegmon (Ph.D. Michigan 1990; Professor). Southwestern archaeology, material culture, archaeology of gender and the social realm.

Thomas Hudak (Ph.D., Michigan 1981; Prof.) Linguistics, Southeast Asian languages and literature, Thai, Indonesian.

Gwynneira Isaac (Ph.D. Oxford 2002) is interested in the representation of knowledge, visual anthropology, and material culture.

Hjorleifur Jonsson (Ph.D. Cornell 1996; Asst. Prof) Social and cultural anthropology, cultural/social change, sports culture, religion/rituals, ideas about nature, state-minority relationships, and Southeast Asia; Thailand, Cambodia, and Vietnam.

Keith Kintigh (Ph.D. Michigan 1982; Prof.). Archaeology, quantitative analysis; Southwestern U.S.

Joan Koss-Chioino (Ph.D. Pennsylvania 1965; Prof.) Medical anthropology, psychological anthropology.

Curtis W. Marean (Ph.D. University of California at Berkeley 1990; Prof.; member of the Institute of Human Origins) has research interests on the origins of modern humans, the prehistory of Africa, and the study of animal bones from archaeological sites.

John F. Martin (Ph.D. Chicago 1967; Prof.). Social anthropology, social organization, population and group interaction studies; U.S. Southwest.

Ben A. Nelson (Ph.D. Southern Illinois, Carbondale 1980; Prof.). Archaeology of frontiers and social power, ethnoarchaeology; North America, Southwest.

Margaret C. Nelson (Ph.D. UC Santa Barbara 1981; Prof.). Archaeology, land use; North American Southwest.

Charles L. Redman (Ph.D. Chicago 1971; Prof.). Archaeology, methodology, research design, architecture; Public Involvement; U.S. Southwest, Old World (near East and North Africa).

Glen Rice (Ph.D. Washington 1975; Assoc. Prof.). Director of the Office of Cultural Resource Management. Analytical methods, the improvement of field strategies, modeling community and settlement systems, and Southwest prehistory. He has directed field work in the Greater Southwest.

Katherine A. Spielmann (Ph.D. Michigan 1982; Prof.). Archaeology, ecology, economic specialization, exchange; North America.

Barbara L. Stark (Ph.D. Yale 1974; Prof.). Archaeology, complex society; Mesoamerica.

Lyle B. Steadman (Ph.D., Australian National 1972; Asst. Prof.) Social anthropology, sociobiology, religion, kinship; New Guinea, Baja California.

Peter Welsh (Ph.D. Pennsylvania 1986; Assoc. Prof. and Director of the Deer Valley Rock Art Center). Cultural anthropology, ethnohistory, material culture, museum studies, North American Indians.

Michael Winkelman (Ph.D., UC Irvine 1985; M.P.H., U of A 2002; Senior Lect.) Medical and psychological anthropology, shamanism, cross-cultural relations, cross-cultural, research methods and theory.

**Research Faculty**

ADJUNCT FACULTY

Hamdallah Béarat (Ph.D. Caen University, France, 1990). Archaeometry; conservation science; provenance, characterization and technical studies of inorganic artifacts, corrosion, alteration and degradation of artifacts, applied mineralogy, ceramic science.

Graciela Cabana (Ph.D. Michigan 2002). Migration theory, hunter-gatherers, transitions to ariculture, ancient DNA, mitochondrial DNA and Y chromosome studies, archaeological theory and human evolution.


Michael S. Foster (Ph.D. Colorado-Boulder 1978). Archaeology of Mesoamerica, Northwest and West Mexico, and U.S. Southwest; prehistoric exchange systems, lithics, ceramic technology, ecological anthropology.


Alice Marie (Sue) Haeussler (Ph.D. Arizona State 1996). Dental anthropology of ancient to contemporary Russia, Ukraine, Georgia, and Central Asia.

Philip C. Hammond (Ph.D. Yale 1957). Middle Eastern archaeology, Syro-Palestinian ancient history, the Nabataeans.


Margaret A. Lindauer (Ph.D. Arizona State 2002). Museum theory and practice, museum politics, exhibition planning and design, museum culture and function.

Janet Montoya (M.A. University of Houston, Clear Lake 1994). Mesoamerican archaeology, ethnohistory, religion and culture, ceramic figurines.

Bethel Nagy (Ph.D. Arizona State 2000). Physical anthropology and bioarchaeology, particularly health status and habitual activity patterns within prehistoric culture groups. North America, especially Midwest (Ohio / Kentucky) and Southwest.


Ana C. Pinto (PhD. Universidad de Oviedo, Spain 2001). Zooarchaeology and taphonomy in Paleolithic cave sites, dental microwear analysis of omnivores, Spain.

Bruce D. Ragsdale (M.D. UC San Francisco 1969). General anatomic and clinical pathology, skeletal and soft tissue pathology, paleopathology, ballistics research.


Steven H. Savage (Ph.D. Arizona State 1995). Mortuary and spatial analysis; geographic information systems; cultural resource management; Old World complex societies; northeast Africa and southwest Asia; quantitative methods, computer applications; Chalcolithic/Bronze Age urbanism, trade.

Henry J. Walt (Ph.D. New Mexico 1990), Archaeology, petroglyphs, ceramic analysis, museums, art history. Southwest U.S., China.

**EMERITUS FACULTY**

John L. Aguilar (PhD. U.C. San Diego 1997, Prof. Emeritus). Political anthropology, anthropology of everyday life, social relations, ethnicity, impact of economic change on class and ethnic relations, and social relations in rural Mexico.

Alfred E. Dittert, Jr. (Ph.D. Arizona 1959; Prof. Emeritus). Archaeology, cultural inventory methods, laboratory methods and techniques, ceramics, conservation of collections, museology; New World, U.S. Southwest.


Donald H. Morris (Ph.D. Arizona 1965; Prof. Emeritus). Physical anthropology, human origins, dentition, archaeology; U.S. Southwest, Africa.

James Schoenwetter (Ph.D. Southern Illinois 1967; Prof.). Archaeology, archaeological pollen analysis, method and theory of cultural ecology, cultural resource management, historical archaeology; U.S. Southwest and Midwest, Mesoamerica, England, France.

**FACULTY IN OTHER DEPARTMENTS**

Students in Physical Anthropology have also interacted with a variety of faculty outside the Anthropology Department. Most notably these have included members of the Departments or Programs of Biology (including Wildlife Conservation Biology), Geology, Mathematics (including Statistics), Computer Science, Chemical, Bio and Materials Engineering, Exercise Science and Physical Education, Family Resources and Human Development, Geography, Psychology, Foreign Languages, and Environmental Resources.
GRADUATE COURSES

PHYSICAL ANTHROPOLOGY

Comparative Primate Anatomy Laboratory (ASM 454)
Introduction to the functional anatomy of the locomotor, cranial and dental apparatus of primates including humans, with emphasis on the relationship of morphology to behavior and environment.

Primate Behavior Laboratory (ASM 455)
This class is an introduction to techniques of scientific observations of behavior. Emphasis is on primate social behavior. Topics include development of problem statements, behavioral categorization and description, sampling, recording, quantification and analysis, and scientific presentation (oral and written).

Advanced Human Osteology (ASM 555)
It is assumed that students taking this course will already have had an introductory course on the human skeleton. This advanced course will deal in greater depth with (1) field recovery of human remains as well as their preparation and curation, (2) skeletal anatomy including identification of complete and fragmental remains, (3) determination of age, sex, stature, etc., (4) collection and analysis of skeletal data, (5) paleopathology (including dietary reconstruction), (6) application of radiographic, microscopic and chemical techniques to osteology, (7) forensic osteology, and (8) analysis of non-skeletal remains (mummified tissue, coprolites, etc.)

S: Forensic Anthropology (ASM 591)
This course deals with the application of anthropology, primarily human osteology, to legal questions such as individual identification, determination of time and cause of death, etc. It covers practical aspects of the recovery and analysis of human remains, writing forensic reports, working with police detectives, medical examiners and attorneys, and presenting testimony in a court of law.

RC: Physical Anthropology: Skeletal Research (ASM 590)
On-going student and faculty projects and theses will be discussed and reviewed.

S: Human Osteology (ASM 591)
Lectures center on growth and development after birth, emphasizing the skeletal and dental systems. Laboratory sessions present the student with actual skeletal material with which to study to gain familiarity with morphology, age differences, sex differences, and pathological differences. The student learns identification techniques which are applicable to either fragmentary or complete bones.

S: Primatology (ASM 591)
Evolution and adaptations of the nonhuman primates. Major emphasis on ecological and evolutionary factors influencing the variation in patterns of social behavior and group organization. Application of comparative information on extant primate ecology, morphology, and behavior to the interpretation of behavioral adaptations of extinct species. Interrelationships of field and captive studies of primate behavior, emphasizing social behavior.

S: Paleoanthropology (ASM 591)
A review of the fossil evidence of human origins and evolution. Students are introduced to current techniques in the analysis of fossils and in the determination of their geological age and ecological context. The course explores the interplay of morphological, ecological, and cultural factors in the human evolutionary process.

S: Disease and Human Evolution (ASM 591)
The course will examine the role of infectious disease in human evolution, from a time before the emergence of the first hominids to the present. An understanding of infectious disease processes, past
and present, requires knowledge of the human immune system, and how the body, particularly the skeleton, responds to infection. The course will also examine how human behavior affects and is affected by infectious disease, and how changing environments and evolving pathogens produce a dynamic situation that requires constant monitoring and response.

S: Dental Anthropology (ASM 591)
This is a survey course that deals with a wide range of dental anthropology topics including anatomy, health, forensics, evolution, embryology, teeth and behavior (including use), genetics, affinity assessment, and several bioarchaeology applications.

S: Human Biological Variation (ASM 591)
Human biological and genetic variation. It is an introduction to the theory of evolutionary mechanics.
Examples are taken from human genetics, anthropometrics, and anthropological genetics.

S: Primate Functional Morphology (ASM 591)
Functional morphology of the locomotor, cranial and dental apparatus of primates, including humans. The course reviews methods and current issues in relating form to function and behaviors in living and fossil species.

S: Primate Paleobiology (ASM 591)
This course is an overview of primate evolution from the first appearance of primates in the Eocene through the adaptive radiation of Miocene apes. Topics include evolution and systematics, phylogeny reconstruction, comparative osteology and dental anatomy, functional morphology, and behavioral ecology of extant and extinct primates. Course format is lecture, seminar, and lab.

S: Paleopathology (ASM 591)
This seminar concerns the manifestations of disease in the human skeleton. Several categories of disease are covered, including metabolic, infectious, degenerative, neoplastic, hematological and circulatory disorders, as well as skeletal dysplasias, congenital malformations and developmental disturbances. Disease recognition is placed within a paleoepidemiological framework in which differential diagnosis is emphasized.

S: Peopling of the World (ASM 591)
A worldwide review of the origin and dispersal of all major human populations based on archaeological, ethnographic, linguistic, and physical anthropological evidence. This evidence is reviewed to test various ideas about human origins, including the problem of the origin of anatomically modern Homo sapiens.

S: Social Issues in Human Genetics (ASM 591)
The purpose of the course is to explore the social and moral implications of applied genetic technology. Amniocentesis, prenatal selection, and abortion play a central role in the curriculum. However, subjects such as in vitro fertilization (the so-called test tube babies), sperm banks and mechanical insemination, organ transplantation are also discussed. An emphasis is placed on specific problems which the student must analyze and discuss.
Courses, programs, and requirements described in this brochure 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. This brochure does not establish a contractual relationship, but summarizes the total requirements which the student must currently meet before qualifying for a faculty recommendation for a degree or certificate.