

# College of Arts & Sciences

The College of Arts & Sciences is the largest undergraduate program at Washington University, offering students the most diverse range of courses in more than 50 different fields, ranging from anthropology and biochemistry to mathematics and performing arts.

The college draws on the rich and varied resources that this distinguished university has to offer — a creative and internationally recognized faculty, a diverse and able student body, a superior library, and excellent opportunities for advanced study. As the center of intellectual life on the campus, the College of Arts & Sciences benefits from and contributes to the studies of architecture, art, business, engineering, law, medicine and social work.

Of central importance to the life of the college is the quality of teaching. Undergraduate students have the opportunity to learn from and work beside stimulating teacher-scholars who are leaders in their fields. Our nationally recognized faculty, which numbers more than 600, is made up of artists, biologists, chemists, economists, historians, philosophers and poets, all of whom bring the excitement and diversity of new ideas into the classroom.

## Governance

The College of Arts & Sciences is bound by the charter of the university and is ultimately responsible to the University Board of Trustees, which delegates to the chancellor the administration of the university. In turn, the chancellor delegates to the deans and faculty of the College of Arts & Sciences responsibility for its internal governance.

Because the college is continually reassessing its objectives and policies, faculty and students alike may take the initiative in proposing changes in curriculum and policies. New programs or proposed modifications are reviewed by committees whose members represent the diverse points of view of the academic community.

By action of the Faculty of Arts & Sciences in January 1969, revised in May 1971, the ArtSci Council shares joint responsibility with the faculty for collegewide degree requirements, the grading system, and those policies that directly affect the lives of students. The ArtSci Council appoints representatives to various standing and ad hoc college committees.

## The Curriculum

The College of Arts & Sciences fosters in its students the quintessential qualities of a liberal arts education: a heightened spirit of inquiry, an ability to organize and synthesize information,

skills in written and oral expression, and a familiarity with the ways in which thoughtful men and women discover those commitments and values that make life worthwhile. By incorporating the college's manifold intellectual resources — people, libraries, laboratories, studios — Arts & Sciences students "learn how to learn," developing both the flexibility and the habits of thought necessary to the ever-evolving worlds of work and global citizenship.

The college's academic program has two principal objectives. First, it provides students with an understanding of the range of human knowledge and attainment by developing an appreciation of the characteristic problems, achievements and limitations of the various fields of human endeavor. The curriculum works to ensure this understanding by requiring a minimum amount of study (9 units/three courses) in each of three broad areas of study — the Humanities; Natural Sciences & Mathematics; and Social & Behavioral Sciences — and three to four courses (9-12 units) in a fourth area, Language & Cultural Diversity. Collectively, these area requirements make up approximately one-third of the units needed to graduate.

Second, the college's academic program gives students the opportunity to study a subject or area in a sustained, intensive way. After a period of initial investigation (typically two to three semesters) during which students explore the richness inherent in the various fields of study, a student declares an area of concentration, the major. The college offers more than 30 traditional subject majors, such as chemistry, English and music, and more than 20 interdisciplinary majors, such as American culture studies; international and area studies; and women, gender, and sexuality studies. Students also may develop an individualized special major.

In all departments, students are encouraged to proceed as their strengths and interests lead them. Placement examinations are used in many departments to enroll undergraduates in courses at the levels their previous training warrants; in other departments, proficiency examinations are available (visit the Proficiency and Placement Examinations (<http://bulletin.wustl.edu/undergrad/admissions>) section of this *Bulletin*, or the college's placement webpages ([http://college.artsci.wustl.edu/policies/placement\\_credit](http://college.artsci.wustl.edu/policies/placement_credit))).

The degree requirements and policies in the *2017-18 Bulletin* apply to students entering Washington University during the 2017-18 academic year. To consult catalogs from prior years, refer to our Prior Bulletins (<http://bulletin.wustl.edu/prior>).

## Academic Advising

To assist students with their undergraduate planning, the college provides a closely coordinated academic advising program. Matriculating students have a specially selected four-year academic adviser with whom they will meet regularly during the first year to help with the transition into the university and to help select courses for the fall and spring semesters. After the first

year, students meet each semester with their four-year academic advisers prior to registration to discuss interests, goals and academic course work. Students are encouraged to consult with their four-year academic advisers any time they need assistance throughout the school year.

Upon declaring a major, students are also assigned a major adviser in the department of their principal area of study. The extent of the adviser's assistance depends on a student's individual needs and wishes. Consultation with a major adviser, in addition to the four-year academic adviser, is required each time a student prepares to register for courses.

Students with problems or questions related to academic issues are invited to visit the College Office at any time. One of the deans is available every day on a walk-in basis to answer questions or to provide references to an appropriate source of help. Important among these sources are individual faculty members with particular specialties who may be able to answer the student's questions. In addition, the Writing Center, Career Center, Student Health Services, and Cornerstone: The Learning Center provide a wide range of services, including individual and group instruction, interest tests and advice, individual sessions with trained counselors about educational and personal problems, and the improvement of learning skills.

## Pre-Matriculation Credit

Students may earn pre-matriculation credit for college-level courses completed before enrollment at Washington University as a first-year student. Sources for pre-matriculation credit include Advanced Placement (AP) examinations, International Baccalaureate (IB), British Advanced (A) Levels, course credit earned by proficiency (e.g., back credit), and college credit earned after the junior year of high school that was not applied to high school graduation. (Credits earned via the High School Summer Scholars or High School College Access programs through University College are considered to be pre-matriculation units and are subject to the same regulations.) Although all accepted pre-matriculation work is noted on the transcript so that the student may go directly into advanced courses, the maximum number of pre-matriculation units of credit awarded is 15. Pre-matriculation course work does not fulfill distribution requirements, but it may fulfill requirements for majors and minors. If a student enrolls in and completes a course equivalent to that for which pre-matriculation credit has been granted, the pre-matriculation units for the course in question will be removed from the student's record. For more information, please refer to the section titled "Pre-Matriculation Units" on the Admissions Procedures (<http://bulletin.wustl.edu/undergrad/admissions>) page of this *Bulletin*.

## Academic Programs for Entering Students

First-year students may choose one of the following programs that provides a basic structure for their course selection. Each

option provides an effective means of discovering personal and intellectual interests.

### Focus Program

Focus (<http://bulletin.wustl.edu/undergrad/arts/focus>) is a one-year program of linked seminars designed to bring students with similar intellectual interests into a close mentoring relationship with members of the faculty. A number of Focus programs are offered every year, each built around a seminar topic reflecting the professor's particular area of expertise. Students in each Focus program also may attend a "companion" course chosen to encourage exploration of the seminar topic from varying perspectives. The Focus program provides a coherent, group-oriented learning experience, while still allowing time for electives.

### Biotech Explorers Pathway

A two-year program exploring the science of technology and the realization of discovery, Biotech Explorers is an interdisciplinary program drawing on biology, chemistry, engineering, physics, computer science, management, public policy and law. The Biotech Explorers Pathway (BEP) introduces students to the fundamental science behind biotechnology and what it takes to move discoveries from the laboratory into the real world. The BEP aims to build connections between sciences, business, technology and engineering at the start of undergraduate studies; to highlight how scientific discoveries lead to useful applications; and to engage curiosity through team-based inquiry that guides students from examples toward idea generation and project development. The first-year courses are a portal to the second-year project development and transition to capstone fellowships for the summer between the sophomore and junior years.

### Global Citizenship Program

Through this year-long program, selected first-year students acquire fundamental skills relevant to International and Area Studies (IAS). The program consists of two courses, one taught each semester, and a weekly, one-credit workshop that runs the entire academic year. The Global Citizenship program examines what it means to be a citizen of the world while challenging its participants to engage both demanding texts and real-life scenarios. The fall semester seminar provides students with a useful theoretical framework for their second semester practicum. The practicum may consist of case studies, proposals and field research. Students work together and with recognized experts in a variety of professions to produce substantive case proposals and action-based documents. As part of the weekly workshop, students collaborate with their peers to produce well-researched and nuanced events geared toward the Washington University community, greater St. Louis, and internet publication.

## The Mind, Brain and Behavior Program

The Mind, Brain and Behavior (<http://bulletin.wustl.edu/undergrad/artsci/mindbrainandbehavior>) program is a two-year program that introduces students to the key ideas about the mind-brain interaction by examining attention, memory and language — three central mental abilities that are primary areas of research in cognitive science. Professor-led discussion groups explore questions such as: What is the relationship between attention and consciousness? Why do we misremember past experience? When the brain is damaged, why are only certain functions lost? In the second year, students engage in hands-on research under the guidance of a faculty mentor.

## Medicine and Society

The Medicine and Society (<http://bulletin.wustl.edu/undergrad/artsci/medicineandsociety>) program is an exciting opportunity for undergraduate students in Arts & Sciences to address the important social and cultural foundations of health and illness in human societies, with a specific emphasis on service and research opportunities in health-related sites in St. Louis. Students who are accepted into the Medicine and Society program are enrolled in a year-long freshman seminar on culture, health and society in the Department of Anthropology. This seminar provides the academic foundation for future community health work in St. Louis.

Beginning in the sophomore year, students identify and select a local community health site for their internship. Internship sites may include the St. Louis city and county health departments, various nongovernmental health aid agencies, sites for delivery of clinical care and research, and health-related philanthropic foundations.

The final requirement for the Medicine and Society program is the Rivers Project, a fourth-year paper, thesis or other project designed to demonstrate the student's mastery of essential concepts and ideas in health and wellness. This experience provides an excellent foundation for future study in medicine and public health, as well as any of the allied health professions.

## Text and Tradition Program

This two-year program explores many of the fundamental texts and concepts of Western history, which have served as both foundations and obstacles for the development of some of the most significant cultural, moral and political institutions of modern society. Through close reading, critical analysis and frequent writing, two seminars each term explore texts by such writers as Homer, Plato, Machiavelli, Cervantes, Locke and Marx. The discovery of the self, the origin of ideas such as liberty and property, and the impact of the scientific revolution are some of the themes examined. The program's professors serve as participating students' academic advisers. Text and Tradition courses serve as introductory courses for many of the humanities departments and programs in Arts & Sciences; they also provide a foundation for students

interested in pursuing an interdisciplinary major in the humanities under the auspices of the Interdisciplinary Project in the Humanities (<http://bulletin.wustl.edu/undergrad/artsci/interdisciplinaryprojectinthehumanities>).

## Standard Program

Although encouraged, Focus and multiyear programs are not required. Students who have already made a firm commitment to a particular discipline in the humanities, natural sciences and social sciences, or who are uncertain about what they would like to pursue, also have a rich array of academic choices throughout their college careers. The course schedule can be either widely exploratory or oriented toward a particular objective such as pre-health studies. Such students are strongly encouraged to consider enrolling in a freshman seminar when selecting courses in consultation with their four-year academic advisers.

## Major Fields of Study

At a minimum, a major consists of 18 advanced (300-level and above) units, all letter-graded and completed with at least a C-. Individual departments may specify additional units or stricter minimum-grade requirements. Students should refer to the department program pages in this *Bulletin* for program-specific requirements.

A student graduating with a Bachelor of Arts may receive no more than a total of two majors and a minor or one major and two minors.

Major declaration is initiated online through WebSTAC (<https://acadinfo.wustl.edu/WebSTAC.asp>). The relevant department or interdisciplinary committee will receive notification of the student's request to declare the major. The declaration of major will not be processed until the student completes any action required by the department as indicated in the WebSTAC application. When the declaration of major is complete, the new major will appear in the Current Programs section of the student's Major Programs page in WebSTAC, and an adviser for the new major will be assigned by the department.

## Second Majors

Students may complete more than one major, including a second major in the Olin Business School or in the School of Engineering & Applied Science. A second major is not required to earn the degree.

*For students matriculating pre-2015:* If a student has two majors, each major must have 18 upper-level units of credit independent of the other. Individual academic departments may enforce a stricter rule regarding double-counting of courses between majors, second majors and minors.

*For students matriculating 2015 and beyond:* If a student has two majors, only introductory (100- and 200-level) courses may be counted, when relevant, toward the requirements of both majors. All advanced (300- and 400-level) courses

must be unique to each major; i.e., no advanced course may "double-count" for the course work needed to fulfill the minimal requirements for either major. Should both major programs require the same course, a departmentally sanctioned elective must be chosen to replace the course in one of the programs.

Students in business, engineering, architecture or art may choose to pursue a second major in the College of Arts & Sciences. These students will receive one degree, a BS or BFA, with two majors — one in the professional school and one in the College of Arts & Sciences.

## Minor Fields of Study

Students developing a significant interest in one or more fields of study beyond the major may choose to pursue a minor in those fields. A minor is not required to earn the degree. Minors may be fulfilled in an area closely related to the major or, to add more breadth to the student's educational program, in a very different area of study. A minor typically comprises 15 to 21 units of credit, all letter-graded and completed with a grade of C- or better. At least 9 of these units of credit must be at the 300 level or above and at least half of the courses must be completed in residence at Washington University. Specific course requirements for a minor are determined by each department or program and are detailed in the department program pages in this *Bulletin*.

*For students matriculating pre-2015:* If a student has a major and a minor, the major must have 18 upper-level units independent of the minor. The minor must have 12 units independent of the major. If a student has two minors, each minor must have 12 units independent of the other.

*For students matriculating 2015 and beyond:* If a student has a major and a minor or has two minors, only introductory (100- and 200-level) courses may be counted, when relevant, toward the requirements of both programs. All advanced (300- and 400-level) courses must be unique to each program; i.e., no advanced course may "double-count" for the course work needed to fulfill either program's minimal requirements. Should a student's major/minor programs require the same course, a departmentally sanctioned elective must be chosen to replace the course in one of the programs.

In addition to pursuing the broad array of minor programs offered through the college, students may undertake minors in architectural studies, art and business as well as computer science, electrical engineering and systems engineering in the School of Engineering & Applied Science.

Minor declaration is initiated online through WebSTAC (<https://acadinfo.wustl.edu/WebSTAC.asp>). The relevant department or interdisciplinary committee will receive notification of the student's request to declare the minor. The declaration of minor will not be processed until the student completes any action required by the department as indicated in the WebSTAC application. When the declaration of minor is complete, the

new minor will appear in the Current Programs section of the student's Major Programs page in WebSTAC.

## The Special Major and Special Minor

On some occasions, a student's interests may fall in the intersection of two or more formally organized major programs, in which case a student may propose a special major that brings the related course work together. Students who propose a special major should be prepared to undertake honors-level work, as all special majors must complete a capstone project of 3 to 6 units the senior year.

Students interested in creating a special major or minor must confer with the dean charged with coordinating this program. After consultation, students must submit to the coordinator a formal proposal consisting of: (1) a description of the program of study, including an explanation of the program's integrating idea; (2) a list of courses to be taken; (3) a letter of support from the proposed academic adviser; and (4) a letter of support from a faculty member in a second, related department who has approved the proposal.

A proposal for a special major or minor must be submitted no later than the fifth semester of undergraduate enrollment. The Committee on the Special Major and Minor is responsible for final action on proposals.

## Special Academic Options

### Overseas Study Programs

The guiding principle of international study through the College of Arts & Sciences is to encourage students to acquire the broad cultural knowledge, the languages and the practical skills to enable them to participate fully in a global society.

For information about the 100-plus study abroad programs offered in more than 50 countries, visit the Overseas Programs website (<http://overseas.wustl.edu>) or the webpages of specific departments and programs.

### Individual and Group Performance

Opportunities for individual and group performance include participation in various musical organizations sponsored by the Department of Music (such as symphony orchestra, wind ensemble and mixed choir) and in courses offered in physical education. To encourage students to pursue such physical, social and creative activities, the college allows up to 12 units of credit toward the bachelor's degree for successful completion of enrollment in individual and group performance. Exceptions to the minimums can be made for students majoring in departments requiring a large number of performance courses, such as dance, drama and music.

## Internships

Students participating in internships that contribute to their academic or professional development may earn credit for unpaid internships. Registration in an internship for credit shall be conditional on satisfactory completion of the Internship Learning Agreement form provided by the College Office and the approval of this completed form by the College Office, faculty sponsor and internship sponsor.

Credit awarded for an internship shall correspond to the time spent in work activities. The student is expected to work 45 hours of internship experience over a period of six to eight weeks for each unit of credit. Registration for 1 to 3 units of credit is possible.

Students may complete the work for an internship over the summer and receive credit during the subsequent semester. Any internship completed this way, however, must satisfy all requirements stated here. The learning agreement must be submitted and approved prior to beginning work at the internship site; therefore, credit cannot be awarded retroactively.

Internship courses shall be offered for credit/no credit grades only and therefore count toward the maximum of 24 credit/no credit units that may be applied toward graduation requirements. Internships do not count toward the advanced units requirement and may count toward the major only with departmental approval. Students may not receive more than 3 units of internship credit in any semester and may count no more than 6 units of internship credit toward the 120 units required for graduation. (These regulations, along with all others governing the AB degree, are detailed on the Arts & Sciences Academic Regulations page (<http://bulletin.wustl.edu/undergrad/artsci/policies>.)

## Part-Time Study: Nontraditional Students

The university recognizes that for certain students with high educational goals, full-time study may not be feasible or appropriate. Employment in demanding positions, extensive family responsibilities or other obligations may prevent an otherwise serious and competent student from completing the bachelor's degree at a rate of 15 units a semester. With their varied experiences outside the university, such students make valuable contributions to the classroom environment as they pursue programs of study suitable to their special circumstances. Please contact University College (<http://bulletin.wustl.edu/undergrad/ucollege>) at 314-935-6700 for more information about part-time study.

## Tuition Reduction

Students who have completed eight full-time semesters in the College of Arts & Sciences and paid full tuition for eight semesters may seek reduced tuition for a ninth or subsequent semester, provided that they have fewer than 12 units to

complete. Students must petition the Dean's Office (<http://college.artsci.wustl.edu/contact>), College of Arts & Sciences, Cupples II Hall, Room 104. Students who successfully petition for tuition adjustment for the ninth or subsequent semester will pay only for the units of credit that they attempt (proportionate to the full-time standard for tuition).

## Army ROTC and Air Force ROTC

Students have the opportunity to participate in either the Air Force ROTC Military Aerospace Science Studies (<http://bulletin.wustl.edu/undergrad/interdisciplinaryopportunities/rotc/#afrotc>) program or the Army ROTC Military Science (<http://bulletin.wustl.edu/undergrad/interdisciplinaryopportunities/rotc/#ArmyROTC>) program. Scholarship information for both programs can be found in the Scholarship Funds section (<http://bulletin.wustl.edu/undergrad/financialsupport>) of this *Bulletin*. For information on counting ROTC course work toward the degree, refer to the Academic Regulations section (<http://bulletin.wustl.edu/undergrad/artsci/policies>) of this *Bulletin*.

## Combined Undergraduate Degree Opportunities

Students may work toward the Bachelor of Arts degree in the College of Arts & Sciences while simultaneously earning another undergraduate degree in business, engineering, architecture or art. Students undertaking this "dual degree" program must earn 150 units, 90 of which must be in the College of Arts & Sciences; fulfill the requirements for a major in each of the two schools; and complete the distribution requirements for both schools. Interested students should contact both a dean in the college and the designated dean in the appropriate professional school as early as possible in the undergraduate career.

## Majors Across Schools

Students may earn an AB degree with a first major in the College of Arts & Sciences and a second major in business or engineering by fulfilling all the distribution requirements for the AB degree and completing the requirements both for the first major in Arts & Sciences and for the second major in business or engineering. With careful planning, this can be accomplished within the 120 units required for the AB degree although students should keep careful count to ensure that they complete at least 90 units of credit in the College of Arts & Sciences. For further information on second majors in business, visit the Olin Business School website (<http://olin.wustl.edu>), and for further information on the second major in engineering, visit the School of Engineering & Applied Science website (<http://engineering.wustl.edu>).

## The Accelerated AB/AM Program

Exceptional students who bring to the university a definite commitment to a field of study in the College of Arts & Sciences and a demonstrated capacity for intensive work may be able to complete a Master of Arts (AM) degree in a one-

year accelerated program after completing the AB degree. This accelerated program, which begins each year in the fall semester, is open exclusively to students graduating in the immediately preceding December, May or August. Applications may be submitted anytime during the senior year through August 1, and Graduate Record Examination (GRE) scores are not required. The application for admission must be made to the department, which forwards the application and recommendation for admission to the Graduate School. Application forms are available on the Graduate School's website (<http://graduateschool.wustl.edu/accelerated-AB-AM-program>).

Some departments may not participate in this program, and some departments that do not otherwise offer a master's degree may provide this opportunity to Washington University undergraduates. Contact the relevant department for more specific information about its admission policies and requirements. Students admitted to the program will be regular, full-time graduate students enrolled in the Graduate School at Washington University.

Most AM degrees in Arts & Sciences require 36 credits. The accelerated program allows Washington University undergraduates to complete a master's degree in one academic year by applying up to five 3-credit courses or four 4-credit courses (a maximum of 16 units), taken as an undergraduate at the 400 level or above, toward the master's degree requirements. For master's programs requiring fewer than 36 units, three courses at the 400 level or above (9-12 units) may be applied toward the AM degree. These undergraduate courses must be in an appropriate discipline, approved by the department, and completed with a grade of B or higher.

## The AB and Master's Degrees in the Professional Schools

The College of Arts & Sciences, in conjunction with the Olin Business School, the School of Engineering & Applied Science, and the Brown School, offers joint (3-2) degree programs. If accepted into a 3-2 degree program, a student may work toward the AB degree during the initial three years at Washington University and the professional degree during the fourth and fifth years. A student electing to do a 3-2 program must complete a combined 150 academic units to earn both the AB degree and the professional degree.

Prior to entry into a 3-2 program, a student in the College of Arts & Sciences must complete:

1. At least 90 academic units of course work offered in the College of Arts & Sciences;
2. All distribution requirements;
3. All requirements for an Arts & Sciences major; and
4. At least 18 of the 30 required units in upper-level course work.

5. A transfer student who seeks the AB degree under this plan must also complete at least four semesters in full-time residence in the College of Arts & Sciences at Washington University.

Thirty units of graduate academic credit taken during the fourth year will complete the 120 academic units required for the AB degree. The professional degree is earned when 150 combined academic units and all degree requirements for the professional school are completed. A student must be recommended by the faculty of the professional school to the dean of the College of Arts & Sciences in order to receive the combined degree.

Students interested in a joint 3-2 degree program should: (1) discuss degree options with a dean in the College of Arts & Sciences and with a dean in the professional school; (2) request the Eligibility Certification Form in the College of Arts & Sciences; and (3) submit the completed Eligibility Certification Form with the application for the 3-2 program to the professional school early in the spring semester of the junior year.

AB joint master's degree students are formally admitted into the graduate program of the professional school as a joint program for the fourth year. Students accepted into 3-2 joint programs will be prime in their undergraduate division for the fourth year; the professional school program will not become prime until after the eighth semester of study as an undergraduate (or after early graduation with a bachelor's degree). In the fifth year, the professional program will become prime.

Students in 3-2 programs will pay the standard full-time undergraduate tuition rate for the fourth year except for the MBA program which charges a premium above the undergraduate tuition rate. Students will receive financial aid for the fourth year based upon their eligibility for undergraduate financial aid awards, including Pell grants.

There is no commitment for undergraduate financial aid beyond the fourth year of study; students in 3-2 programs may apply to the professional programs (Social Work, MBA) for graduate student financial aid for study in the professional program beyond the fourth year.

This policy applies to all undergraduates enrolled in Washington University day school bachelor's programs who have completed less than the equivalent of eight semesters of academic work toward their bachelor's degree. If these students enroll in any Washington University graduate or post-baccalaureate degree program to begin course work toward a graduate degree in their fourth year, before being awarded a Washington University bachelor's degree or completion of the equivalent of eight semesters of undergraduate enrollment, they are covered by this policy.

This policy applies to current 3-2 programs involving Washington University bachelor's and master's programs and to any future 3-2 programs.

## Olin Business School

A five-year program combining an undergraduate degree and a master's degree is available to a select number of students. (More information on the Olin Business School 3+2 Program is available on our website.)

## School of Engineering & Applied Science

The combined AB/Master's Program is designed to enable students in the College of Arts & Sciences to pursue a coordinated five-year study leading to an AB degree in the College of Arts & Sciences and a master's degree in the School of Engineering & Applied Science.

## Social Work

This 3-2 program (<http://msw.wustl.edu/3-2>) leads to an AB degree from the College of Arts & Sciences and an MSW degree from the Brown School. Interested students should apply to the Brown School during the first semester of the junior year. Students from all academic disciplines with an interest in social work are encouraged to apply. For further information, visit our website.

## Public Health

This 3-2 program (<http://mph.wustl.edu/3-2>) leads to an AB degree from the College of Arts & Sciences and an MPH degree from the Brown School. Interested students should apply to the Brown School during the first semester of the junior year. Students from all academic disciplines with an interest in public health are encouraged to apply. For further information, visit our website.

## Undergraduate Pre-Professional Preparation

Students planning to pursue pre-professional studies should refer to the general recommendations given below. For more specific recommendations, visit the appropriate webpages.

## Architecture

Please refer to the College of Architecture (<http://bulletin.wustl.edu/undergrad/architecture>) section in this *Bulletin*.

## Business Administration

Students in the College of Arts & Sciences are welcome to consult with the associate dean for the undergraduate program in the Olin Business School concerning any aspect of preparation for careers in business. For more information, visit the Olin Business School's website (<http://olin.wustl.edu>).

## Law

The two most significant factors law schools use in determining whom to admit for legal study are the undergraduate GPA (taking into consideration the difficulty of courses attempted and the breadth of study) and the score on the Law School

Admission Test (LSAT). Admission to law school requires a bachelor's degree.

There is no required set of courses for pre-law study at the undergraduate level. Many law school applicants have majors in economics, English, history, philosophy and political science, but law schools also seek students with undergraduate majors in science, business, engineering and other disciplines. Whatever area(s) pre-law students choose to emphasize in their undergraduate studies, they should take courses that require significant amounts of writing, that develop analytic thinking skills, that encourage application of principles or theories to new situations, and that require original writing and revision of written work in response to comment and critique. It is also important to learn to read and analyze complex written material and to develop sound research skills.

Economics, history, philosophy and political science courses can help to develop an understanding of the traditions behind and the development of the U.S. legal system. Logic, statistics and accounting courses also provide valuable background for legal study and the practice of law.

The pre-law advisers in the College of Arts & Sciences are available to help plan a course of study and prepare a strategy for applying for admission to law school. For more information, visit the pre-law website ([http://college.artsci.wustl.edu/pre\\_law](http://college.artsci.wustl.edu/pre_law)).

## Medicine

Pre-medical students in the College of Arts & Sciences of Washington University complete the bachelor's degree before admission to a medical school. In addition to fulfilling the requirements for the AB, pre-medical students must fulfill the entrance requirements of the medical schools to which they plan to apply. Specific requirements, which may vary, are summarized in the *Medical College Admission Requirements* handbook, published annually online by the Association of American Medical Colleges.

Pre-medical students must demonstrate high academic achievement and must possess the character, responsibility and level of commitment suitable for a career in medicine. While requirements for specific medical schools are increasingly varied, most schools have traditionally required at least one year each of English, general biology, inorganic chemistry, organic chemistry and physics, with laboratory components traditionally required for all of the core science courses; additionally, students preparing to take the Medical College Admissions Test (MCAT) should take one semester each of biochemistry, psychology and sociology. Medical schools also encourage applicants to develop a broad intellectual background that includes the humanities, the social and behavioral sciences, and a demonstrated understanding of and appreciation for social and cultural diversity.

Students interested in the health professions may choose a major in any field — the humanities, the social sciences or

the natural sciences — as long as they complete the pre-medical requirements. Any student planning to apply to MD–PhD programs is strongly advised to major in one of the natural sciences and to begin gaining bench research experience no later than the beginning of the sophomore year. Research opportunities are available both on the Danforth Campus and at the School of Medicine and are open to both science and nonscience majors. Health-related volunteer opportunities are also widely available.

Students entering the university planning to apply to medical school should, with the aid of their advisers, structure their course of study to include the medical school requirements. There is no one right or best sequence of courses: There are numerous pathways to medical school. Because each student's pathway is different, students interested in a career in the health professions are encouraged to consult the pre-health deans in the college in addition to their academic advisers. Additional information can be found at the pre-health website (<http://prehealth.wustl.edu/Pages/default.aspx>).

## Physical Therapy

Students interested in pursuing a career in physical therapy must complete a bachelor's degree before entering the Doctor of Physical Therapy (DPT) program.

Prerequisites for the DPT vary from school to school but generally include the following course work:

- 8 units in general biology
- 8 units in chemistry with laboratories
- 8 units in physics with laboratories
- 3 units in anatomy (human, vertebrate, comparative or anatomical kinesiology)
- 3 units in physiology (human physiology preferred)
- 3 units in trigonometry (calculus is acceptable)
- 3 units in statistics
- 6 units in psychology (to include abnormal psychology)
- 6 units in English (to include English composition or an upper-level writing course)
- 6 units in social sciences or the humanities

DPT programs also require applicants to take the Graduate Record Examination (GRE) and to demonstrate competence in medical terminology. Admission factors include grade point average, GRE scores, letters of recommendation and written essays.

Interested students will find additional information about Washington University School of Medicine's Program in Physical Therapy (<http://physicaltherapy.wustl.edu>) on our website.