

For information on teaching English as a Second Language, contact:

► The National Center for ESL Literacy Education, 4646 40th St. NW., Washington, DC 20016. Internet: <http://www.cal.org/nclle>

Teachers—Postsecondary

(O*NET 25-1011.00, 25-1021.00, 25-1022.00, 25-1031.00, 25-1032.00, 25-1041.00, 25-1042.00, 25-1043.00, 25-1051.00, 25-1052.00, 25-1053.00, 25-1054.00, 25-1061.00, 25-1062.00, 25-1063.00, 25-1064.00, 25-1065.00, 25-1066.00, 25-1067.00, 25-1069.99, 25-1071.00, 25-1072.00, 25-1081.00, 25-1082.00, 25-1111.00, 25-1112.00, 25-1113.00, 25-1121.00, 25-1122.00, 25-1123.00, 25-1124.00, 25-1125.00, 25-1126.00, 25-1191.00, 25-1192.00, 25-1193.00, 25-1194.00, 25-1199.99)

Significant Points

- College faculty usually need a Ph.D. for full-time, tenure-track positions in 4-year colleges and universities.
- Requirements for postsecondary vocational-technical education teachers include work experience, and formal education ranging from a license or certificate to a college degree.
- The job market in colleges and universities is expected to improve, but many new openings will be for part-time or nontenure track positions.
- Job prospects will continue to be better in certain fields—computer science, engineering, and business, for example—that offer attractive nonacademic job opportunities and attract fewer applicants for academic positions.

Nature of the Work

College and university faculty, who make up the majority of postsecondary teachers, teach and advise nearly 15 million full- and part-time college students and perform a significant part of our Nation's research. Faculty also keep up with developments in their field and consult with government, business, nonprofit, and community organizations.

Faculty usually are organized into departments or divisions, based on subject or field. They usually teach several different courses—algebra, calculus, and statistics, for example. They may instruct undergraduate or graduate students, or both. College and university faculty may give lectures to several hundred students in large halls, lead small seminars, or supervise students in laboratories. They prepare lectures, exercises, and laboratory experiments; grade exams and papers; and advise and work with students individually. In universities, they also supervise graduate students' teaching and research. College faculty work with an increasingly varied student population made up of growing shares of part-time, older, and culturally and racially diverse students.

Faculty keep abreast of developments in their field by reading current literature, talking with colleagues, and participating in professional conferences. They also do their own research to expand knowledge in their field. They perform experiments; collect and analyze data; and examine original documents, literature, and other source material. From this process, they arrive at conclusions, and publish their findings in scholarly journals, books, and electronic media.

College and university faculty use technology in all areas of their work. In the classroom, they may use computers—including the

Internet; electronic mail; software programs, such as statistical packages; and CD-ROMs—as teaching aids. Faculty post course content, class notes, class schedules, and other information on the Internet. Increasingly, faculty are using sophisticated telecommunications and videoconferencing equipment and the Internet to teach courses to students at remote sites. The use of e-mail, chat rooms, and other techniques has greatly improved communications between students and teachers and among students.

Most faculty members serve on academic or administrative committees that deal with the policies of their institution, departmental matters, academic issues, curricula, budgets, equipment purchases, and hiring. Some work with student and community organizations. Department chairpersons are faculty members who usually teach some courses but have heavier administrative responsibilities.

The proportion of time spent on research, teaching, administrative, and other duties varies by individual circumstance and type of institution. Faculty members at universities normally spend a significant part of their time doing research; those in 4-year colleges, somewhat less; and those in 2-year colleges, relatively little. The teaching load, however, often is heavier in 2-year colleges and somewhat lower at 4-year institutions. Full professors at all types of institutions usually spend a larger portion of their time conducting research than do assistant professors, instructors, and lecturers.

Postsecondary vocational-technical education teachers provide instruction for occupations that do not require a college degree, such as welder, dental hygienist, x-ray technician, auto mechanic,



Postsecondary teachers keep abreast of developments in their field by reading current literature and talking with colleagues.

and cosmetologist. Classes often are taught in an industrial or laboratory setting where students are provided hands-on experience. For example, welding instructors show students various welding techniques, watch them use tools and equipment, and have them repeat procedures until they meet the specific standards required by the trade. Increasingly, vocational-technical education teachers are integrating academic and vocational curriculums so students obtain a variety of skills that can be applied to the “real world.”

Vocational-technical education teachers have many of the same responsibilities as college and university faculty. They must prepare lessons, grade papers, attend faculty meetings, and keep abreast of developments in their field. Along with the community colleges, vocational-technical schools also are playing a greater role in students’ transition from school to work by helping establish internships and by providing information about prospective employers.

Working Conditions

Postsecondary teachers usually have flexible schedules. They must be present for classes, usually 12 to 16 hours per week, and for faculty and committee meetings. Most establish regular office hours for student consultations, usually 3 to 6 hours per week. Otherwise, teachers are free to decide when and where they will work, and how much time to devote to course preparation, grading, study, research, graduate student supervision, and other activities.

Some teach night and weekend classes. This is particularly true for teachers at 2-year community colleges or institutions with large enrollments of older students who have full-time jobs or family responsibilities. Most colleges and universities require teachers to work 9 months of the year, which allows them the time to teach additional courses, do research, travel, or pursue nonacademic interests during the summer and school holidays. Colleges and universities usually have funds to support research or other professional development needs, including travel to conferences and research sites.

About 3 out of 10 college and university faculty worked part time in 2000. Some part-timers, known as “adjunct faculty,” have primary jobs outside of academia—in government, private industry, or nonprofit research—and teach “on the side.” Others prefer to work part-time hours or seek full-time jobs but are unable to obtain them due to intense competition for available openings. Some work part time in more than one institution. Many adjunct faculty are not qualified for tenure-track positions because they lack a doctoral degree.

University faculty may experience a conflict between their responsibilities to teach students and the pressure to do research and to publish their findings. This may be a particular problem for young faculty seeking advancement in 4-year research universities. Also, recent cutbacks and the hiring of more part-time faculty have put a greater administrative burden on full-time faculty. Requirements to teach online classes have also added greatly to the workloads of postsecondary teachers. Developing the courses to put online, plus learning how to operate the technology and answering large amounts of e-mail, is very time-consuming.

Employment

Postsecondary teachers held over 1.3 million jobs in 2000. Most were employed in 4-year public colleges and universities, and in community colleges. Postsecondary vocational-technical education teachers also are employed by schools and institutes that specialize in training people in a specific field, such as beauty schools and welding institutes. They also work for State and local governments and job training facilities.

Training, Other Qualifications, and Advancement

Most college and university faculty are in four academic ranks—professor, associate professor, assistant professor, and instructor.

These positions usually are considered to be tenure-track positions. A small number of faculty, called lecturers, usually are not on the tenure track.

Most faculty members are hired as instructors or assistant professors. Four-year colleges and universities usually consider doctoral degree holders for full-time, tenure-track positions, but may hire master’s degree holders or doctoral candidates for certain disciplines, such as the arts, or for part-time and temporary jobs. In 2-year colleges, master’s degree holders fill most full-time positions. However, with increasing competition for available jobs, institutions can be more selective in their hiring practices. Master’s degree holders may find it increasingly difficult to obtain employment as they are passed over in favor of candidates holding a Ph.D.

Doctoral programs, including time spent completing a master’s degree and a dissertation, take an average of 6 to 8 years of full-time study beyond the bachelor’s degree. Some programs, such as the humanities, take longer to complete; others, such as engineering, usually are shorter. Candidates specialize in a subfield of a discipline—for example, organic chemistry, counseling psychology, or European history—but also take courses covering the entire discipline. Programs include 20 or more increasingly specialized courses and seminars plus comprehensive examinations on all major areas of the field. Candidates also must complete a dissertation—a written report on original research in the candidate’s major field of study. The dissertation sets forth an original hypothesis or proposes a model and tests it. Students in the natural sciences and engineering usually do laboratory work; in the humanities, they study original documents and other published material. The dissertation, done under the guidance of one or more faculty advisors, usually takes 1 or 2 years of full-time work.

In some fields, particularly the natural sciences, some students spend an additional 2 years on postdoctoral research and study before taking a faculty position. Some Ph.D.’s extend postdoctoral appointments, or take new ones, if they are unable to find a faculty job. Most of these appointments offer a nominal salary.

A program called Preparing Future Faculty, administered by the Association of American Colleges and Universities and the Council of Graduate Schools, offers graduate students at research universities the opportunity to apprentice at local liberal arts colleges. Working with a mentor, the graduate students teach classes and learn how to improve their teaching techniques. They may attend faculty and committee meetings, develop a curriculum, and learn how to balance the teaching, research, and administrative roles that faculty play.

A major step in the traditional academic career is attaining tenure. New tenure-track faculty usually are hired as instructors or assistant professors, and must serve a certain period (usually 7 years) under term contracts. At the end of the contract period, their record of teaching, research, and overall contribution to the institution is reviewed; tenure is granted if the review is favorable. According to the American Association of University Professors, about 63 percent of all full-time faculty held tenure, and about 86 percent were in tenure-track positions, during the 1999–2000 school year. Those denied tenure usually must leave the institution. Tenured professors cannot be fired without just cause and due process. Tenure protects the faculty’s academic freedom—the ability to teach and conduct research without fear of being fired for advocating unpopular ideas. It also gives both faculty and institutions the stability needed for effective research and teaching, and provides financial security for faculty. Some institutions have adopted post-tenure review policies to encourage ongoing evaluation of tenured faculty.

The number of tenure-track positions is expected to decline as institutions seek flexibility in dealing with financial matters and changing student interests. Institutions will rely more heavily on

limited term contracts and part-time, or adjunct, faculty, shrinking the total pool of tenured faculty. Some institutions offer limited term contracts to prospective faculty—typically 2-, 3-, or 5-year, full-time contracts. These contracts may be terminated or extended at the end of the period. Institutions are not obligated to grant tenure to these contract holders. In addition, some institutions have limited the percentage of faculty who can be tenured.

Training requirements for postsecondary vocational-technical education teachers vary by State and by subject. In general, teachers need a bachelor's degree or higher plus work or other experience in their field. In some fields, a license or certificate that demonstrates one's qualifications may be all that is required. Teachers update their skills through continuing education to maintain certification. They must also maintain ongoing dialogue with businesses to determine the most current skills needed in the workplace.

For most postsecondary teachers, advancement involves a move into administrative and managerial positions, such as departmental chairperson, dean, and president. At 4-year institutions, such advancement requires a doctoral degree. At 2-year colleges, a doctorate is helpful but not usually required, except for advancement to some top administrative positions. (Deans and departmental chairpersons are covered in the *Handbook* statement on education administrators, while college presidents are included in the *Handbook* statement on top executives.)

Postsecondary teachers should communicate and relate well with students, enjoy working with them, and be able to motivate them. They should have inquiring and analytical minds, and a strong desire to pursue and disseminate knowledge. Additionally, they must be self-motivated and able to work in an environment where they receive little direct supervision.

Job Outlook

The job outlook for postsecondary teachers should be much brighter than it has been in recent years. Employment is expected to grow faster than the average for all occupations through 2010. Projected growth in college and university enrollment over the next decade stems largely from the expected increase in the population of 18 to 24-year olds. Adults returning to college and an increase in foreign-born students also will add to the number of students, particularly in the fastest growing States of California, Texas, Florida, New York, and Arizona. Because many of the students will be from minority groups, demand for minority teachers will be high.

Welfare-to-work policies and the growing need to regularly update one's skills will continue to create new opportunities for postsecondary teachers, particularly at community colleges. There also is expected to be a large number of openings due to the retirements of faculty who were hired in the late '60s and '70s to teach the baby boomers. In contrast, the number of doctorate degrees is projected to rise by only 4 percent over the 2000-10 period, which is sharply lower than the increase over the previous decade. A surplus of Ph.D. candidates in recent years has contributed to intense competition for college faculty jobs.

Although the competition for jobs should ease somewhat, it will remain tight for those seeking tenure-track positions at 4-year colleges and universities. Many of the jobs opening up are expected to be part time or renewable, term appointments. The best job prospects will continue to be in the computer sciences, engineering, and business fields in which jobs outside academia are plentiful. Vocational-technical education teachers also are in short supply in the computer, business, and health-related fields.

Distance learning, particularly over the Internet, is expected to create a number of new jobs for postsecondary teachers, as this method of education reaches students who would not be able to attend a traditional classroom. Those in rural areas and with family

responsibilities are embracing distance education as a way to get the education they want, while minimizing the commute to a campus. In addition, employers are expected to use distance learning as a way to update their employees' skills. The Army has recently announced plans to offer distance learning to its troops. Increasing demand for distance education will result in the need for more teachers of online classes, both at traditional colleges and universities and at new online universities.

Earnings

Median annual earnings of postsecondary teachers in 2000 were \$46,330. The middle 50 percent earned between \$32,270 and \$66,460. The lowest 10 percent earned less than \$21,700; the highest 10 percent, more than \$87,850.

Earnings for college faculty vary according to rank and type of institution, geographic area, and field. According to a 1999-2000 survey by the American Association of University Professors, salaries for full-time faculty averaged \$58,400. By rank, the average for professors was \$76,200; associate professors, \$55,300; assistant professors, \$45,600; instructors, \$34,700; and lecturers, \$38,100. Faculty in 4-year institutions earn higher salaries, on average, than do those in 2-year schools. In 1999-2000, average salaries for faculty in public institutions—\$57,700—were lower than those in private independent institutions—\$66,300—but higher than those in religiously-affiliated private colleges and universities—\$51,300. In fields with high-paying nonacademic alternatives—medicine, law, engineering, and business, among others—earnings exceed these averages. In others—such as the humanities and education—they are lower.

Most faculty members have significant earnings in addition to their base salary, from consulting, teaching additional courses, research, writing for publication, or other employment.

In addition to typical benefits, most college and university faculty enjoy some unique benefits, including access to campus facilities, tuition waivers for dependents, housing and travel allowances, and paid sabbatical leaves. Part-time faculty usually have fewer benefits than do full-time faculty.

Earnings for postsecondary vocational-technical education teachers vary widely by subject, academic credentials, experience, and region of the country. Part-time instructors usually receive few benefits.

Related Occupations

Postsecondary teaching requires the ability to communicate ideas well, motivate students, and be creative. Workers in other occupations that require these skills are teachers—preschool, kindergarten, elementary, middle, and secondary; education administrators; librarians; counselors; writers and editors; public relations specialists; and management analysts. Faculty research activities often are similar to those of scientists, as well as to those of managers and administrators in industry, government, and nonprofit research organizations.

Sources of Additional Information

Professional societies related to a field of study often provide information on academic and nonacademic employment opportunities. Names and addresses of many of these societies appear in statements elsewhere in the *Handbook*.

Special publications on higher education, available in libraries, such as *The Chronicle of Higher Education*, list specific employment opportunities for faculty.

For information on the Preparing Future Faculty program, contact: ► Association of American Colleges and Universities, 1818 R St. NW, Washington, DC 20009. Internet: <http://www.aacu-edu.org>

For information on postsecondary vocational-technical education teaching positions, contact State departments of vocational-technical education.

General information on adult and vocational education is available from:

- ▶ Association for Career and Technical Education, 1410 King St., Alexandria, VA 22314. Internet: <http://www.acteonline.org>
- ▶ ERIC Clearinghouse on Adult, Career, and Vocational Education, 1900 Kenny Rd., Columbus, OH 43210. Internet: <http://www.ericacve.org>

Teachers—Preschool, Kindergarten, Elementary, Middle, and Secondary

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Significant Points

- Public school teachers must have at least a bachelor’s degree, complete an approved teacher education program, and be licensed.
- Many States offer alternative licensing programs to attract people into teaching, especially for hard-to-fill positions.
- Excellent job opportunities will stem from the large number of teachers expected to retire over the next 10 years, particularly at the secondary school level; job outlook will vary by geographic area and subject specialty.

Nature of the Work

Teachers act as facilitators or coaches, using interactive discussions and “hands-on” learning to help students learn and apply concepts in subjects such as science, mathematics, or English. As teachers move away from the traditional repetitive drill approaches and rote memorization, they are using more “props” or “manipulatives” to help children understand abstract concepts, solve problems, and develop critical thought processes. For example, they teach the concepts of numbers or adding and subtracting by playing board games. As children get older, they use more sophisticated materials such as science apparatus, cameras, or computers.

Many classes are becoming less structured, with students working in groups to discuss and solve problems together. Preparing students for the future workforce is the major stimulus generating the changes in education. To be prepared, students must be able to interact with others, adapt to new technology, and logically think through problems. Teachers provide the tools and environment for their students to develop these skills.

Preschool, kindergarten, and elementary school teachers play a vital role in the development of children. What children learn and experience during their early years can shape their views of themselves and the world, and affect later success or failure in school, work, and their personal lives. Preschool, kindergarten, and elementary school teachers introduce children to numbers, language, science, and social studies. They use games, music, artwork, films, books, computers, and other tools to teach basic skills.

Preschool children learn mainly through play. Recognizing the importance of play, preschool teachers build their program around it. They capitalize on children’s play to further language development (storytelling and acting games), improve social skills (working together to build a neighborhood in a sandbox), and introduce

scientific and mathematical concepts (balancing and counting blocks when building a bridge or mixing colors when painting). Thus, a less structured approach is used to teach preschool children, including small group lessons, one-on-one instruction, and learning through creative activities, such as art, dance, and music. Play and hands-on teaching also are used in kindergarten classrooms, but academics begins to take priority. Letter recognition, phonics, numbers, and awareness of nature and science are taught primarily by kindergarten teachers.

Most elementary school teachers instruct one class of children in several subjects. In some schools, two or more teachers work as a team and are jointly responsible for a group of students in at least one subject. In other schools, a teacher may teach one special subject—usually music, art, reading, science, arithmetic, or physical education—to a number of classes. A small but growing number of teachers instruct multilevel classrooms, with students at several different learning levels.

Middle and secondary school teachers help students delve more deeply into subjects introduced in elementary school and expose them to more information about the world. Middle and secondary school teachers specialize in a specific subject, such as English, Spanish, mathematics, history, or biology. They also can teach subjects that are career-oriented. Vocational education teachers instruct and train students to work in a wide variety of fields, such as health care, business, auto repair, communications, and, increasingly, technology. They often teach courses that are in high demand by area employers, who may provide input into the curriculum and offer internships to students. (Special education teachers—who instruct elementary and secondary school students who have a variety of disabilities—are discussed separately in this section of the *Handbook*.)

Teachers may use films, slides, overhead projectors, and the latest technology in teaching, including computers, telecommunication systems, and video discs. Use of computer resources, such as educational software and the Internet, exposes students to a vast range of experiences and promotes interactive learning. Through the Internet, American students can communicate with students in other countries. Students also use the Internet for individual research projects and information gathering. Computers are used in other classroom activities as well, from helping students solve math problems to learning English as a second language. Teachers also may use computers to record grades and perform other administrative and clerical duties. They must continually update their skills so that they can instruct and use the latest technology in the classroom.

Teachers often work with students from varied ethnic, racial, and religious backgrounds. With growing minority populations in many parts of the country, it is important for teachers to establish rapport with a diverse student population. Accordingly, some schools offer training to help teachers enhance their awareness and understanding of different cultures. Teachers may also include multicultural programming in their lesson plans to address the needs of all students, regardless of their cultural background.

Teachers design classroom presentations to meet student needs and abilities. They also work with students individually. Teachers plan, evaluate, and assign lessons; prepare, administer, and grade tests; listen to oral presentations; and maintain classroom discipline. They observe and evaluate a student’s performance and potential, and increasingly are asked to use new assessment methods. For example, teachers may examine a portfolio of a student’s artwork or writing to judge the student’s overall progress. They then can provide additional assistance in areas where a student needs help. Teachers also grade papers, prepare report cards, and meet with parents and school staff to discuss a student’s academic progress or personal problems.