

# Preparation for Graduate and Professional Study

## Graduate Study and College Teaching

The academic qualification for most positions in college teaching is possession of the master's or doctor's degree. Teacher certification is not required. The doctorate often is also the avenue to a career in research, education, or industry as well as to various executive responsibilities in management.

Usually the master's degree requires at least one year of full-time study beyond the bachelor's degree. The doctorate requires at least three additional years. Graduate study presupposes fundamental preparation in a special field as well as supplementary skills in foreign or computer language or statistics that should be acquired in the undergraduate program.

Students contemplating graduate study should become familiar with conventional procedures, the comparative merits of various institutions, and the availability of financial assistance. Faculties and graduate schools tend to have particular strengths in special fields, with corresponding prestige for their graduates. Fellowships, assistantships, and other types of appointments often are available to students who require financial assistance. Information is available at the university or a public library, on the Internet, in the bulletins of graduate schools, in the annual *Directory of Graduate Programs* published by the Educational Testing Service, and in the annual *Peterson's Guide to Graduate and Professional Programs*. Early in their senior year students should contact selected graduate schools to obtain applications for admission and financial aid and other pertinent information. Many graduate schools now have on-line applications.

Early and sustained consultation with John Carroll faculty members will be most helpful in planning graduate study. Faculty may assist in submission of applications for admission to graduate study or graduate appointments. Credentials commonly must be submitted during the winter, and selections are ordinarily announced about mid-spring.

Undergraduate preparation generally requires a full major in the chosen field. Quality of achievement as evidenced by grades is an important index to probable success in graduate study. Undergraduate transcripts are required and examined by the graduate school for both admission and appointments. Another common expectation is good performance on an examination, which should be taken as early in the senior year as necessary to submit test scores by the date designated by each graduate school. Students must determine whether a particular graduate school requires the Graduate Record Examination General (Aptitude) Test or Subject (Advanced) Test or both. Other tests such as the GMAT or the Miller Analogies Test may also be required. Information about testing dates and locations may be obtained from the Graduate School office.

Students must take the initiative in seeking advice and obtaining application forms, meeting requirements, and enlisting recommendations. The dean and the faculty of the

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major department, however, are ready to assist in any reasonable way to provide endorsement warranted by the student's ability and achievement.

### **Professional Programs**

Professions such as law, medicine, dentistry, and engineering ordinarily have two phases of schooling: preprofessional and professional. John Carroll University cooperates with the students' preprofessional schooling by offering programs of two, three, or four years' length. Although there is increasing preference within the professions for candidates who have completed baccalaureate programs, students with exceptional academic records and personal development may enter some professional schools such as dentistry or optometry after two or three years of preprofessional education. Students are urged in most cases to pursue programs leading to a bachelor's degree.

### **Health Professions**

Students pursuing full four-year degree programs as premedical or pre dental preparation normally earn the Bachelor of Science degree with a major in either biology or chemistry, but they are free to follow any degree program provided they complete the specific premedical or pre dental requirements.

Students should familiarize themselves with the general admission requirements of the profession which they aspire to enter in addition to those of specific schools of their choice. The Coordinator of Pre-Health Professions Studies, Dr. Gwendolyn Kinebrew of the Biology Department, is available for individual advising. In addition, general meetings are held each year to provide information for each class level. Faculty advisors in the biological and physical sciences are also available to act in an educational and advising capacity. Students are encouraged to avail themselves of these resources.

The Health Professions Advisory Committee is the university agent which recommends students to medical and dental schools. The committee, rather than individual faculty members, issues letters of recommendation. The recommendation of the committee is based not only on academic performance but also on factors such as integrity, industry, maturity, judgment, and social development.

Post-baccalaureate students who have not received their undergraduate degree from John Carroll may use the Health Professions Advisory Committee as the source for their letter of recommendation if they so choose. Normally such students should have completed 24 semester hours of course work at John Carroll, which may include the semester in which they interview before the committee.

Current admission practices of health professional schools suggest student qualifications considerably higher than the minimum C average required for graduation. Normally, therefore, a letter of evaluation will be written only for applicants to medical school who have achieved a grade-point average of 3.0 overall and 3.0 in science courses (biology, chemistry, physics, and mathematics), and for applicants to dental school who have achieved a grade-point average of 2.75 overall and 2.75 in science courses (biology, chemistry, physics, and mathematics).

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### **Medicine**

The requirements of medical schools are summarized in *Admission Requirements of American Medical Colleges*, published annually by the Association of American Medical Colleges. Applicants for medical school must take the Medical College Admission Test. Since this test is usually taken in late spring of the junior year, premedical students should have completed or be completing the basic requirements for medical school by that time. Those requirements are generally one year each of general chemistry, organic chemistry, physics, biology, and math. They are usually fulfilled at John Carroll by taking CH 141-144 and 221-224; PH 125, 125L, 126, and 126L; BL 155-158; and MT 135-136 (MT 228 may be substituted for MT 136). A bachelor's degree is almost invariably required.

John Carroll also participates in two special programs for premedical students: (1) the Dual Admission Program is an early-decision program for high school students in conjunction with the University of Cincinnati College of Medicine and must be applied to during the early part of the senior year in high school; (2) the MEDStart Program, offered with the Medical College of Ohio, is an early-decision program for John Carroll first-semester juniors. Details of these programs are available on the JCU website (/prehealth) or from the coordinator of pre-health professions studies.

### **Dentistry**

The Council on Dental Education of the American Dental Association lists the minimum educational requirements for admission to a dental school as follows: (1) Students must successfully complete two full years of study in an accredited liberal arts college. (2) In most states, the basic requirements of pre-dental education are the same as those of premedical education noted above. Those requirements are generally one year each of general chemistry, organic chemistry, physics, biology, and math. They are usually fulfilled at John Carroll by taking CH 141-144 and 221-224, PH 125, 125L, 126, 126L, BL 155-158, and MT 135-136. (3) Students must complete a minimum of 64 credit hours from liberal or general education courses, such as English, mathematics, philosophy, and religious studies, which give breadth to their educational background. Applicants must take the Dental Aptitude Test. This test is usually taken in late spring of the junior year, by which time the basic pre-dental requirements should be completed. Although students with only two or three years of undergraduate education are occasionally admitted to schools of dentistry, that is the exception rather than the rule.

In addition to medicine and dentistry, there are a number of occupations available in the health-care delivery area that are in the process of expanding. Students are encouraged to explore and consider such fields as podiatry, physical therapy, occupational therapy, pharmacy, nursing, optometry, veterinary medicine, and physician assistant. Most of these occupations require a baccalaureate degree with additional education at the graduate level. Information and advising are available from the coordinator of pre-health professions studies.

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### **Law**

A pre-law advisor is available to guide students interested in pursuing the study of law upon graduation. This advisor currently is Dr. Elizabeth Swenson, Department of Psychology.

Any major can be a suitable preparation for a career in law, especially when combined with carefully chosen courses outside the major field. Students interested in law school are especially urged to consider double majors or a minor or a concentration which complements the major field of study.

A broad background of knowledge, which is obtained through the University Core Curriculum in the Liberal Arts, and a major in some specific field, are required for the study of law. In addition, certain skills are important in learning and practicing law. These skills include the ability to speak and write effectively, to organize and absorb large amounts of information, to read carefully and critically, to analyze and evaluate complex issues, and to deal with problems creatively. Also important is knowledge of the social, political, and economic structure of society and an understanding of the human values of this structure.

The pre-law advisor can also give advice on admission to law schools, on the choice of a career in the legal profession, and on the construction and content of a personal statement. In addition to the undergraduate degree, law schools require students to take the Law School Admission Test (LSAT) and to apply through the Law School Data Assembly Service (LSDAS). Forms for both of these are available from the pre-law advisor.

Admission to law school is based on high academic standing, a correspondingly high score on the LSAT, and recommendations from faculty and others who are familiar with the applicant's character, academic preparation, and aptitude for law school. Extracurricular activities, part-time employment, and special achievements also play a role.

### **Ohio CPA Certificate**

Certified public accountants should have a broad background of both liberal and professional education. The experience of alumni of the Boler School of Business indicates that the major in accountancy provides excellent preparation for the Ohio CPA examination.

The certificate is granted by the State Board of Accountancy in accordance with the Ohio Revised Code. The current educational requirement for the CPA certificate is graduation with a baccalaureate or higher degree that includes successful completion of 150 semester hours of college-level credit or the satisfaction of alternate prequalification options. In addition to 30 hours of accountancy, candidates must complete coursework in such areas as ethics, business communications, economics, finance, marketing, quantitative applications, and business law. Students should discuss the available options with a member of the Department of Accountancy.

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In addition to this educational requirement, candidates for the CPA certificate must (a) pass a written examination in accounting, auditing, and in other related subjects, and (b) have public accounting experiences satisfactory to the board.

Students who wish to prepare for CPA certificates awarded by states other than Ohio should discuss the situation and their academic programs with members of the Department of Accountancy.

### **Teacher Education**

The Teacher Education Licensure Programs are based in the history and tradition of the Jesuits as educators. The mission of the academic department is grounded in the Jesuit Ideal of an Educator. The department recognizes that the preparation of an educator is the responsibility of the entire university. The university's view of the professional preparation of educators encompasses the following:

1. A broad, liberal education.
2. Thorough competence in subject matter.
  1. Professional education, combining theory and practice, and focusing on four academic content strands: a) contexts; b) child and adolescent development; c) curriculum, learning and instruction; d) teacher as person.
4. Continuing inservice and graduate studies.

At the undergraduate level there is a major in education for individuals seeking an Early Childhood or Middle Childhood license. Prospective AYA and Multi-Age teachers major in a teaching content area and also take a professional education sequence offered by the Department of Education and Allied Studies. Teacher education programs for prospective AYA and Multi-Age teachers are offered jointly by the Department of Education and Allied Studies and the following departments: Biology, Chemistry, Classical and Modern Languages and Cultures, Communications, English, History, Mathematics, Physical Education and Exercise Science, Physics, Political Science, Psychology, and Sociology. All undergraduate programs are designed in accordance with Ohio licensure requirements. Note that some licensure requirements may exceed the normal 128 credit hours needed for the bachelor's degree. Also available is a post-baccalaureate program for qualified degree-holders who did not take or did not complete a teacher education program during undergraduate studies.

Graduate programs are offered in the fields of professional classroom teaching, school administration, school counseling, school psychology, educational psychology, technology, reading, chemical dependency, and urban education, and specialized sequences based on candidate educational background.

The university also offers a graduate program in teacher education directed at liberal arts graduates. It is carried out cooperatively with the public and private schools located in Cleveland and communities close to the John Carroll University campus. Students will obtain a master of education degree and an initial Early Child, Middle Child, AYA, or Multi-Age license upon successful completion of this program which includes student

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teaching and passing Praxis II licensure exams. This degree and licensure conform to current Ohio licensure standards.

The detailed organization of teacher education programs and information on licensure requirements will be found with the course offerings in the section on the Department of Education and Allied Studies, in the descriptions of courses in the relevant academic departments, and in the *Graduate School Bulletin*.

### **Engineering Programs**

While John Carroll University does not offer a degree in engineering, students interested in engineering have the following options. (1) They may complete an appropriate B.S. degree in either chemistry, physics, engineering physics (with specialization in either electrical engineering or computer engineering), or mathematics. Students may elect to take additional engineering courses at Case Western Reserve University and other colleges and universities participating in the Northeast Ohio Commission on Higher Education Cross-Registration Program and then enter an engineering school for a master's degree in a particular field of engineering. (2) They may choose to complete two years of pre-engineering at John Carroll University and then transfer to Case, to the University of Detroit Mercy, or to another engineering school to pursue a degree in engineering. (3) They may choose the joint-degree program available with Case.

Formal agreements have been made to enable students who complete the two-year pre-engineering program at John Carroll to transfer either to Case or to the University of Detroit Mercy, if the minimum continuation requirements set down by each university are met. Case offers a wide variety of engineering programs which have a national reputation. The University of Detroit Mercy has unique co-op engineering programs where students are required to alternate between engineering study and industrial work periods. They must take their first work period in the summer after sophomore year if they wish to graduate at the end of the summer after their fourth year. Students can earn a good portion of their expenses from employment in the co-op program.

The joint-degree science/engineering program (Binary Program, 3-2 Program) consists of three years at John Carroll as a science major followed by approximately two years at Case as an engineering major. The Binary Program is for students who want to combine a solid arts and sciences foundation with technical study in astronomy, biochemistry, or an engineering discipline. This program leads to two bachelor's degrees: one from John Carroll in science, and the other in engineering from Case.

A minimum grade point average of 3.0 (B) is required for participation in the Binary Program. A GPA of 3.0 (B) in science and mathematics courses is also required.

Students interested in any of the above engineering programs should call the Department of Chemistry or the Department of Physics as early as possible and ask to speak to the engineering advisor.