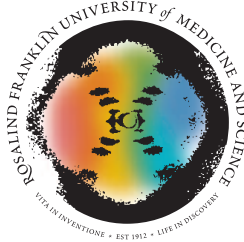




College of Health Professions
ACADEMIC CATALOGUE 2007-2008





College of Health Professions Academic Catalogue 2007–2008

Rosalind Franklin University of Medicine and Science and the College of Health Professions reserve the right to change, at any time and without notice, their requirements, regulations, course and program offerings, fees, charges, and other matters addressed in this catalogue. RFUMS must reserve the right to modify or terminate programs described herein. However, modification of program requirements will not adversely affect those students already enrolled in a program, nor will termination of a program affect anything other than the closure of admission thereto.

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Dear Prospective Student:

Thank you for your interest in the College of Health Professions at Rosalind Franklin University of Medicine and Science. Within the pages of this academic catalogue, you will find a wealth of information about our academic programs, including course descriptions, application procedures, financial assistance options, and much more.

An education at the College of Health Professions offers a personalized, innovative and integrated experience that is aimed at enabling the beginning or continuation of rewarding careers in health care. Whether you are interested in doctoral study or certificate programs, full-time or part-time enrollment, the College offers leading-edge curricula that fit many ambitions and lifestyles.

Your interest in the College of Health Professions honors and inspires us. We hope your interest in our programs is the start of a fulfilling and successful future.

Sincerely,

A handwritten signature in black ink that reads "Wendy Rheault". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Wendy Rheault, PhD, PT

Dean

History

Rosalind Franklin University of Medicine and Science is a four-college University that was built around the Chicago Medical School (CMS), which has been educating physicians and furthering biomedical research for 94 years. From the first days in 1912, the physician and citizen founders of CMS aimed to establish a combined medical school and hospital in which employed men and women could study medicine at night, a common practice at the time. The School's noteworthy period of development took place under the direction of John J. Sheinin, MD, PhD, DSc, who served as dean and president from 1932 to 1966. It was during his administration that CMS successfully met the challenges arising from the revolutionary restructuring of American medical education following the Flexner Report.

In 1930, the Medical School moved to what was to become one of the world's largest aggregations of medical facilities. Located just west of downtown Chicago, this complex contained three medical schools, seven hospitals, colleges of dentistry, pharmacy and nursing, and two undergraduate universities. CMS occupied an 11-story facility in the renowned research and educational center.

In 1967, the University of Health Sciences (UHS) was established. The University comprised the Chicago Medical School (CMS), the School of Related Health Sciences (SRHS, now College of Health Professions), and the School of Graduate and Postdoctoral Studies (SGPDS). The College of Health Professions first opened its doors in 1970, when two baccalaureate programs, Physical Therapy and Medical Technology (now Clinical Laboratory Sciences), were established. Since that time, the College has expanded its offerings to include masters- or doctoral-level programs in the following areas: Nutrition, Physician Assistant, Pathologists' Assistant, Physical Therapy, Healthcare Management, Interdisciplinary Studies, Women's Health, Medical Radiation Physics, Nurse Anesthesia, Biomedical Sciences, and Clinical Psychology. In 1980, the University relocated to its current campus in North Chicago, IL, adjacent to the North Chicago Veterans Affairs Medical Center and Naval Station Great Lakes. In 1993, the institution was renamed for its long-time leader and Chairman of the Board of Trustees, Mr. Herman M. Finch. Finch University of Health Sciences/The Chicago Medical School, granted full accreditation by the North Central Association of Colleges and Schools in 1980, represented one of the first educational institutions in the country devoted exclusively to educating men and women for a broad range of professional careers in health care and research. In 2001, the Dr. William M. Scholl College of Podiatric Medicine (established in 1912) became part of the University structure, which now comprises four colleges. On January 27, 2004, the University publicly announced its intent to change its name to Rosalind Franklin University of Medicine and Science, in honor of Rosalind Franklin, PhD, a pioneer in the field of DNA research. The name change became legal on March 1, 2004, at which time the School of Related Health Sciences also changed its name to College of Health Professions.

In addition to the name change and the announcement of several new strategic initiatives, the University is currently in the midst of profound physical growth. In October 2002, the University opened its Health Sciences Building, a 140,000-square-foot state-of-the-art facility that houses laboratories, auditoriums, classrooms, departmental offices, a student union, the Feet First Museum, University bookstore, recreational game room, exercise facility, and a café. The University became a residential campus for the first time in its history when three student housing facilities, totaling 180 apartments, opened in July 2003. And in 2006 the University opened a two-story, \$10 million research expansion to further its mission of scientific discovery.

The University's Basic Sciences Building is a 400,000-square-foot facility that houses a 52,000-square-foot Library and The Daniel Solomon, MD, and Mary Ann Solomon Learning Resource Center, as well as administrative offices, classrooms, auditoriums, basic science departments, research and teaching laboratories, and dining areas.

University enrollment is nearly 1,700, with the bulk of its students enrolled in CMS. The University's total faculty is 817. Major hospital affiliates include: North Chicago Veterans Affairs Medical Center, John H. Stroger, Jr., Hospital of Cook County, Mount Sinai Hospital and Medical Center, and Lutheran General Hospital. The University's clinical campus consists of the North Chicago Veterans Affairs Medical Center and the Rosalind Franklin University Health System.

Dr. Rosalind Franklin, through her pioneering work in the science of life and through her unflagging perseverance, serves as a role model for our faculty and students, and represents the future of biomedical science and integrated health care. Her history mirrors our own in many profound ways, marked by dedication to discovery even in the midst of difficult times. Upon that history, her legacy guides the future of the University itself.

After 95 years of excellence in healthcare education, Rosalind Franklin University of Medicine and Science has only just begun to write its history. We hope you will join us in creating bold visions for an ambitious future.

To learn more about Dr. Rosalind Franklin and the University's dedication to her legacy, visit www.lifeindiscovery.com.

Mission

To prepare exceptional healthcare professionals for leadership and evidence-based practice within a collaborative delivery model through student-centered programs that offer cutting-edge curricula.

Vision

The College will be recognized as the premier center for health professions education through its outstanding graduates, curricular innovation, scholarly activity and community service.

Equal Opportunity

It is the policy of Rosalind Franklin University of Medicine and Science not to discriminate on the basis of race, color, national origin, sex, sexual orientation, disability, age, religion or veteran status in its programs and activities, including, but not limited to, recruitment, admissions and employment. Inquiries regarding this policy may be directed to the Executive Director of Student Affairs, 3333 Green Bay Road, North Chicago, IL 60064; 847-578-8351.

About the College of Health Professions

In the fall of 1970, the College of Health Professions was established as the School of Related Health Sciences and offered its first program in Physical Therapy. This Bachelor of Science degree was an upper division (junior/senior level) two-year program. In 1972, a baccalaureate degree in Medical Technology was offered. In the 1980s, the College added Master of Science degrees in Physical Therapy and Medical Technology, as well as a Bachelor of Science in Nursing. In the 1990s, Master of Science Programs in Physician Assistant Practice, Nutrition, Healthcare Management, Pathologists' Assistant and a Doctorate in Physical Therapy (DPT) were added. Today, the college is growing rapidly in response to a changing healthcare industry, with new programs in Women's Health, Healthcare Management, Biomedical Sciences, Nurse Anesthesia, Medical Radiation Physics, and Clinical Psychology.

The College of Health Professions bases its degree programs on two underlying objectives – the education of highly skilled allied health practitioners and the development of their capacity for leadership roles in their fields. The needs of professionals looking for advancement within their disciplines are met by the College's emphasis on academic and clinical experience related to education and management.

To encourage career advancement, opportunities are provided, when possible, for students to make use of their previous employment experiences and to continue employment in the field. In keeping with an emphasis on career growth, the College offers many opportunities for part-time students.

Recognizing that its students have differing needs based on education and experience, each department has designed a curriculum and philosophy to accommodate students on an individual basis. The College's small class enrollment allows this flexibility.

Most of the College's coursework is offered on the campus of Rosalind Franklin University of Medicine and Science, though our distance education center offers master's degrees, as well as continuing education, online for health professionals.

Location

The College of Health Professions is located in the 140,000-square-foot Health Sciences Building on the campus of Rosalind Franklin University of Medicine and Science, at 3333 Green Bay Road, North Chicago, IL 60064. The University is situated in the northern suburbs of Chicago, with easy access to downtown Chicago and the surrounding areas by car or public transportation. Chicago is arguably one of the foremost cultural, educational and scientific centers of the world. University students enjoy an environment rich in cultural and leisure activities, with neighboring communities that boast award-winning restaurants, museums and more.

For directions and a map, visit www.rosalindfranklin.edu/map.pdf.

Accreditation

Rosalind Franklin University of Medicine and Science receives its degree-granting authority from the Illinois Board of Higher Education and is accredited through the North Central Association of Colleges and Schools.

North Central Association of Colleges and Schools

Higher Learning Commission

30 North LaSalle Street, Suite 2400

Chicago, IL 60602-2504

800-621-7440

312-263-0456



Classification of Students

There are two categories of students:

1. *Regular Students* – This category includes all full-time and part-time students who have met the admission requirements and are matriculating for a degree. Full-time students are enrolled for at least 12 quarter hours per quarter.
2. *Special Students* – Students in this category intend to satisfy an intermediate academic or career goal by completing specific courses. This limited goal must be achieved in no more than three academic quarters and by itself does not result in a degree. This goal is stated and mutually agreed upon. The standard quarter hour tuition will be charged for all special students.

A student is classified as a Special Student for one or more of the following reasons:

1. The student is not a degree candidate at the College and the student's objective is to take only certain courses.
2. The student's regular applicant file shows insufficient achievement in one or more area. A probationary acceptance is offered during which time the student is given the opportunity to prove his or her academic ability.

Special Students do not automatically qualify for admission as Regular Students. Special Students seeking status as Regular Students must submit an application, meet the admission requirements, and be considered for admission to the program on a competitive basis.

Admission

Prospective students are invited to discuss their educational goals with the department chair before applying. This section of the catalog describes only the general procedures for admission to the College of Health Professions. In addition, each department has specific minimum requirements for admission; prospective applicants are urged to review these requirements in the individual sections listed for each department.

In general, students are expected to begin their studies at the start of the Summer Quarter. When available resources permit, student may begin studies at the start of other academic quarters. Applicants who wish to investigate this alternative are invited to discuss the possibilities with the appropriate department chair.

Application for Admission

Application forms and materials are available online at www.rosalindfranklin.edu/admissions/chp/index.cfm, or by contacting:

Office of CHP and Graduate Admissions
 Rosalind Franklin University
 of Medicine and Science
 3333 Green Bay Road
 North Chicago, IL 60064
 847-578-3209

Completed applications, as well as references and transcripts, should be sent to the same address.

The following are needed to complete an application:

1. Completed application form and official transcripts from colleges or universities previously or currently attended.
2. Two or three letters of recommendation from persons involved in the student's previous educational or work experience, whichever was more extensive and recent.
3. A filing fee, as specified in the application packet, in the form of a check or money order payable to "Rosalind Franklin University."
4. A personal interview (as required by program).
5. Official transcripts of the Test of English as a Foreign Language (TOEFL) if the applicant's native language is not English and he or she has not attended an American college or university full time or for two consecutive years.

Special students (auditors and non-degree students) are asked to submit an application and an official transcript, showing proof of a bachelor's degree. No letters of recommendation need to be submitted.

The Admissions Office reviews all applications for completeness and forwards the completed application to the department chair for further action.

The applicant is notified by mail whether he or she has been accepted or rejected. A Health Form will be included with the acceptance letter. The student is required to return his or her letters of acceptance with the completed Health Form. A placement fee, as specified by the department, should be made payable to "Rosalind Franklin University."

In late spring, an orientation packet will be mailed to the student. This packet includes information and time for registration, housing information, as well as the names and addresses of department classmates.

Technical Standards

Candidates are considered for admission without regard for disabilities, as required under the Americans with Disabilities Act and related legislation. However, each department within the College of Health Professions has determined a series of abilities and skills that are required of all students. Inquiries about policies on disabilities should be directed to the Americans with Disabilities Act (ADA) Coordinator in the Office for Student Affairs.

Transfer of Course Credits

Students completing courses in fully accredited institutions, or at those institutions that are in some phase of the accreditation process by a recognized accrediting body, will be reviewed for credit transfer if grades are "C" or better.

See individual program requirements.

Competency Testing

The College of Health Professions recognizes that knowledge, competence and skill may be acquired under circumstances and in places other than formal and traditional educational institutions. Therefore, credit and advanced standing may be granted for relevant knowledge, competence and skill developed in such places as the Armed Forces, proprietary institutions and on-the-job experience.* However, the College of Health Professions reserves the right to assign such credit and/or advanced standing to the applicant on the basis of some acceptable measure of competence in the field, discipline, or subject in question. Among these measures of competence may be any of the following: assessment of work experience in relationship to the profession for which the student is being trained; subject matter examinations prepared by the College Entrance Examination Board or the Armed Forces.

*Not applicable to all programs.

For more information about Admission to the College of Health Professions, visit www.rosalindfranklin.edu/admissions/.

Non-Immigrant Alien Students

The College of Health Professions is authorized under federal law to enroll non-immigrant alien students. Information about appropriate certification of alien students is available from the Office of Admissions.

Registration and Withdrawal Policies

Quarterly Registration

1. All students must register each quarter.
 - a. Students must register for clinical and field work as well as for didactic course work.
 - b. Course schedules, including confirmation of advanced credit and “testing out” of specific courses, must be approved by the departmental chair or authorized faculty representative prior to completing registration at the Registrar’s Office.**
 - c. Registration forms are available at the Registrar’s Office or through the department, either in person or by mail.
 - d. Registration must be completed one month before the beginning of the quarter.
2. To receive credit for any courses, the student must be registered. Retroactive registration is not acceptable (i.e., the student will not receive credit toward graduation in any course completed during an unregistered period).
3. Tuition is due at the time of registration. If a tuition deferment is necessary, all arrangements must be made with the Financial Aid Office prior to registration.

**Advanced testing and credit are only allowed in specified programs.

Withdrawal and Adding Courses after Registration

A student may withdraw from a course up to and including the fourth week of study upon the recommendation of the department or course instructor and the letter “W” will be recorded on the official transcript. No withdrawal will be allowed after the fourth week of class without indicating a pass or fail status.

A course may be added to the student’s course load up to the end of the second week of the quarter.

Tuition, Fees, and Costs

The deposit fee to hold a place in class is applied to the first quarter tuition at registration.

Tuition and fees are due the first day of each term according to the academic calendar, regardless of when classes actually start. Beginning on the first day of each quarter, a penalty fee of 7% and an interest fee calculated on a daily basis at the rate of 18% per annum is assessed to each student's account which is not yet paid.

Failure to pay tuition and fees in full by the end of the academic quarter will result in a student not being allowed to register for the subsequent quarter.

The following table shows the estimated educational expenses:

	2007–2008 Tuition Rates Without Fees*	
	Annual	Per Credit Hour
Clinical Laboratory Sciences		
Bachelor of Science	\$14,803	\$329
Entry Level Master of Science	\$14,803	\$329
Advanced Master of Science		\$439
Clinical Psychology		
Interprofessional Healthcare Studies		
MS Biomedical Sciences	\$35,240	
MS Healthcare Management		\$439
MS Women's Health		\$439
DSc/PhD Interprofessional Healthcare Studies		\$439
Medical Radiation Physics		
Master of Science	\$26,184	
Doctor of Philosophy	\$27,462	
Nurse Anesthesia		
Master of Science	\$20,000	\$369
Nutrition and Clinical Dietetics		
Master of Science		\$439
Pathologists' Assistant		
Master of Science	\$21,000	\$350
Physician Assistant		
Master of Science	\$22,620	\$312
Physical Therapy		
Entry Level DPT	\$20,830	\$388
Post-Professional DPT		\$439
Master of Science		\$458

*Subject to change.

The University requires that all students maintain hospitalization and medical expense insurance. Proof of satisfactory hospitalization is required. If not available, the student must make application for such coverage through the University. Information is available in the Business Office. Enrollment in the university plan must be completed at the time tuition is paid. Please be prepared with a check or cash to cover the cost. All students must enroll for the complete program or sign a waiver form upon payment of tuition. Students will be required to remit the tuition at the time of registration.

Fees for Auditing

A student may audit a course with the written permission of the instructor. Transfer from Credit to Audit is permitted within the first two weeks. Transfer from Audit to Credit is not permitted after classes have begun.

Refunds

If a student withdraws from a program before the end of the first week of classes, 100% refund of tuition is made. When withdrawal is made before the end of the second week, the refund is 75%; before the end of the third week, 50%, before the end of the 4th week, 25%. After that time, no refund is granted.

Financial Aid Information

Individuals who wish to apply for financial aid should ensure that their graduate program applications are submitted well before the enrollment deadline to allow adequate time for document processing. Students must enroll in 6 hours per quarter to be eligible for financial aid.

Applications for federal student aid are available online at: www.fafsa.ed.gov and are available every February for the following academic year. The code for Rosalind Franklin University of Medicine and Science is 001659.

Financial Assistance

To meet the cost of attending the College of Health Professions, students, spouse and parents are expected to provide financial support to the extent they are able. When family resources are insufficient to meet college costs, students are encouraged to seek assistance from the following currently existing programs.

Subsidized Federal Stafford Loan

The Federal Stafford Student Loan is a low-interest, need-based, federally subsidized loan. The maximum amount that may be borrowed per year is \$8,500 (\$65,500 cumulative maximum). The interest rate is an annual variable based on the 91-day Treasury Bill capped at 6.8%. Interest is subsidized, which means the federal government pays the interest to the lender during enrollment in school.

Unsubsidized Federal Stafford Loan

The Unsubsidized Federal Stafford Loan has a loan limit of \$12,000 per year (\$123,625 aggregate) with an annual interest rate fixed at 6.8%. Interest is accruing while the student is enrolled (unlike the Federal Stafford) but payment can be deferred until after graduation. The limit the student can borrow through both Stafford programs during undergraduate and graduate school is \$189,125.

Federal Perkins Loan

The Perkins Loan is a federal program to provide need-based, low-interest educational loans for students. The interest rate is 5% during the repayment period. Allocations of the Perkins are based on the availability of funds and are awarded by the institution.

Veterans Educational Benefits

The College of Health Professions is approved for veterans educational benefits by the State Approval Agency of the State of Illinois.

For more information about financial assistance, visit www.rosalindfranklin.edu/osa/financialaid/.

Academic Standards of Performance and Their Measurement

Grading System

Grade point average is computed on a 4.0 scale. GPA hours attempted and corresponding (quality) honor points earned include RFUMS courses for which A, B, C, D, or F grades are given.

A	– High achievement	4 points
B	– Above average achievement	3 points
C	– Average achievement	2 points
D	– Below average but passing	1 point
F	– Fail	0 points
I	– Incomplete	0 points
	Incomplete must be removed by the end of the following quarter; otherwise, deficiencies that have not been removed will be subject to a grade of “F.”	
W	– Withdrawal	0 points
	A student may withdraw from a course up to and including the fourth week of study.	
*	– Credit and final grade to be awarded at the end of the course sequence.	0 points
P	– Pass	0 points
	Credit only; no grade point value.	

Credit

Baccalaureate and Post-baccalaureate credit is recorded in quarter hours. One quarter hour represents one 50-minute period of classroom work each week for the duration of one quarter, which is eleven to twelve weeks in length, or the equivalent in laboratory or field work.

Incomplete Grades (I)

A grade of Incomplete (I) may be given to a student who, because of extenuating circumstances, has not completed the final project and/or the final exam requirements. In requesting an Incomplete grade, students must seek the consent of the instructor prior to the date on which final grades are submitted to the Registrar. Students are required to file an acceptable plan for removing the Incomplete grade with the instructor. Incompletes must be removed by the end of the following quarter; otherwise, deficiencies that have not been removed are subject to a grade of “F.” The grade “I” is recorded on the academic transcript; a letter grade is assigned only after the course requirements are completed.

Graduation with Honors

Students in the undergraduate programs with a GPA of 3.25 or above for any single quarter are placed on the “Dean’s List.” The student with the highest GPA above 3.65 in each program is awarded the “Dean’s Award” upon graduation.

Reasons for Possible Dismissal from a Program

A student is subject to dismissal for the following reasons:

- a. Baccalaureate students who receive a “D” in any two courses or an “F” in any course
- b. Post-baccalaureate students who receive an “F” in a course

Procedures for Dismissal from a Program

If any of the reasons for possible dismissal occur, the student will receive notification of the possible dismissal. Detailed procedures for the process of dismissal are described in the College of Health Professions Student Handbook.

Appeal of Dismissal from a Program

Students may appeal dismissal to the Dean of the College of Health Professions, who will ask the Professional Affairs Committee to review the appeal. Details of the appeal process are found in the CHP Student Handbook.

Academic Standards

The College of Health Professions expects students to pursue studies in a manner that will prepare them for excellence in their chosen health profession. Each department or program may set standards for promotion. Students not meeting such standards will be notified by the department.

Special Students

Special students are expected to maintain the academic performance standards required of other graduate students.

Retaking Courses

The College of Health Professions discourages the retaking of courses or examinations to improve grades. Courses and examinations may be retaken only after approval of a petition to the Dean, endorsed by the course director, program director and chair of the student’s department. Grades are recorded for both courses.

Nonacademic Performance Standards

Students in the College of Health Professions are subject to dismissal for unethical and/or unprofessional behavior in their student role.

Statement of Policy on Professionalism and Ethics

All students at Rosalind Franklin University are expected to exhibit professional, responsible and ethical behavior. Students should display this behavior as students in the University, as healthcare providers in the clinical setting and as researchers in the laboratory or clinic. All students should, therefore, possess the highest degree of personal integrity and be able to reason about ethical issues in their professional life. Students are expected to treat patients and research subjects with respect, compassion and sincerity, irrespective of race, color, creed, ethnic origin, religion, disability, gender, sexual orientation, or socioeconomic class, and to maintain strict confidentiality. Students are expected to be honest and trustworthy, to respect the property of others, and to

follow the code of professional ethics appropriate to their discipline. Any departures from these standards may result in disciplinary action.

Procedures for Consideration of Violations of Professional and Ethical Standards

A student under suspicion of professional or ethical misconduct shall be afforded appropriate notice and process in the investigation, deliberation, and decision about such allegations and potential penalties. The procedures described in the CHP Student Handbook are designed to ensure such rights for the student and the University.

Student Records

All documents and records pertaining to students' admission and academic performance in the University are filed in the Office of the Registrar. A copy of students' complete academic records at the University may be furnished to each student after each academic quarter of attendance. Students have the right to inspect items in their files in the Registrar's Office on any regular working day. The Dean and the Director or Associate Dean for Student Affairs also have access to these files. University faculty, committees, and other administrative personnel may secure access to these files only with the Dean's permission. The University complies with the requirements of the Family Educational Rights and Privacy Act of 1974 as amended. Copies of University policy are available at the Office of the Registrar.

Leave of Absence

Regular students in the College of Health Professions are expected to maintain continuity and diligence in pursuing a specified advanced degree. When, for any reason, a student must be absent from academic study at the University, departmental approval must be obtained. Students shall petition the Dean for a leave of absence and receive approval before leaving.

A request for leave of absence during a period of academic difficulty is authorized only after careful consideration. In general, such leave is granted only after agreement on a structured program of activities to be pursued during the leave of absence. These activities are designed to help students overcome academic difficulties; they will have to be successfully completed as a condition for re-admittance to classes.

Leaves of absence requested for reasons of health, maternity, or finances are granted as a matter of course. Upon resolution of the conditions for which leave was granted, students are readmitted to the same academic standing that existed when the leave began.

Graduation Requirements

Students must have satisfactorily completed the following requirements in order to be eligible for graduation as determined by their departments:

1. Acquired a minimum cumulative GPA of 2.00 (May be higher in some departments)
2. Completed all necessary requirements of the department or program in which enrolled
3. Be recommended to the Board of Trustees by the CHP faculty via the Dean of CHP, via the President of the University
4. Graduation can occur only after the student has discharged all financial commitments and has returned all library books, department books and equipment.

Campus and Student Life

Rosalind Franklin University of Medicine and Science is located adjacent to the grounds of the nation's third largest Veteran's Administration Medical Center, situated in North Chicago. The facility is readily accessible by commuter train and interstate highways. It is also located close to some of the most attractive residential neighborhoods in the Chicago metropolitan area. Free campus parking is available to students, faculty and staff.

Student Housing

Rosalind Franklin University offers on-campus living for students in modern, state-of-the-art apartments. For more information about these one- and two-bedroom apartments, or to learn how the Office of Student Housing can assist you in locating off-campus housing, visit www.rosalindfranklin.edu/housing.

Office for Student Affairs

Throughout the student's education, the Office for Student Affairs helps by 1) providing information concerning the institution and student performance, 2) representing student interests where appropriate, 3) locating referral sources to meet student needs, and 4) offering direct counseling related to academic and personal concerns.

Personal Advising and Counseling

The University provides a professional counseling service through the Department of Psychology and Department of Psychiatry and Behavioral Sciences to help students deal with personal and family problems. Student needs for this service are met promptly. Outside referral may be required to meet special needs or long-term therapy. All contacts with the counseling service are strictly confidential.

Tutoring and Other Academic Assistance

The Office for Student Affairs and the student's faculty advisors are interested in helping students maximize their academic performance. Every effort is made to detect potential academic difficulties as early as possible so that help can be given to correct these problems. Individuals are available to help graduate students improve their study skills and to provide tutoring assistance as needed. The Office for Student Affairs gladly arranges for necessary assistance.

University Student Council

Students in all four colleges at Rosalind Franklin University participate in the University Student Council. This group, organized and run entirely by students, concerns itself with overall policy and direction of the institution as it relates to student concerns. In addition, the Council plans and supports campus social events and student delegate trips to national professional group meetings. It also names student representatives to committees of the various schools. In addition to the representatives from each school, all interested students in any of the schools are welcome to participate voluntarily in the Council's activities. The Council meets monthly.

Health Care and Health Insurance

Health Insurance

All students are required to obtain and maintain health insurance while they are enrolled in the University.

Students may purchase insurance coverage, under the University's group policy, for themselves and their family while attending the University. Contact the Business Office to discuss plan options and to obtain an application. Please note that if the student withdraws or is dismissed from the University, his/her coverage under the University's policy will be cancelled. Also, group coverage will terminate upon graduation.

If the student elects to purchase coverage from another source or continue other current coverage, he/she will be required to provide proof of insurance at the time of registration. In the case where such insurance is through a managed care plan, the student should verify that he/she will be entitled to benefits coverage for services provided at Rosalind Franklin University Health System. Many managed care plans provide coverage only in certain regional areas and for specific panels of contracted physicians. Questions regarding benefits coverage should be directed to the member services phone number on the student's insurance card.

Students are encouraged to establish a patient billing account with the Health System. They may register and provide insurance information through the Health System's reception office during normal business hours, which are posted at the entrance to the clinic office. Then, when medical services are rendered, the University Patient Accounts Department will bill the student's health plan. After claims have been paid by insurance, the student will receive a statement indicating the level of payment on claims and any patient charges remaining on his/her account.

Dental Insurance

RFUMS has available a dental plan that students may elect to join. New students will have the opportunity to enroll at the time of their initial registration at the University or at the beginning of every month thereafter. For additional information, please contact the Business Office.

Transportation

Metra commuter trains stop at the Great Lakes and Lake Bluff stations, in close proximity to the campus; the University provides periodic shuttles to and from the Lake Bluff train station. The ride from downtown Chicago takes approximately one hour. Service is provided at about 20-minute intervals during commuter hours and at about 60-minute intervals during other hours of the day and night. Monthly passes permit unlimited use to and from Chicago, North Shore, and Southern Wisconsin communities. The campus is accessible from Chicago by auto via Interstate 94 and U.S. Route 41 (Edens Expressway) or Interstate 294 (Tri-State Tollway). Commuting time from downtown Chicago is about 75 minutes during rush hours, under one hour at other times.

Resources

The Learning Resource Center (LRC)

The Learning Resource Center provides a wide range of services to the students, faculty and staff of RFUMS, including the following:

The Boxer University Library

The Boxer University Library collection holds nearly 120,000 volumes and currently receives more than 1,800 subscriptions to the world's leading biomedical journals, as well as access to more than 60 major medical information databases. Library services include reference assistance to identify and locate scientific and health related literature, online database searching, library instruction, interlibrary loans and fax service. Group study rooms, a 24-hour computer lab and network connectivity are available in the library. Orientations are available upon request. The Boxer University Library is open 103 hours each week.

Academic Computing Labs

The Academic Computing Labs are located on both levels of the LRC. In addition to the 24-hour computer lab in the library, there are academic computing labs and a dedicated computer classroom on the lower level. Labs have PCs, printers, scanners and Internet connectivity. The LRC staff provides academic computer instruction.

Creative Media Center

The Creative Media Center (CMC) is the University's single solution for professional creative services, including posters, business cards, newsletters, advertisements, brochures and Web sites. CMC has the skills, equipment, and talents to create high-impact marketing solutions. CMC is located in the lower level of the Boxer University Library and offers the following services:

Audio Visual

Provides media equipment support for classrooms, conferences, meeting and special events.

Digital Photography

Provides quality multidimensional photographic services.

Graphic Design

Creating and designing University print media.

Production Printing

Offers a wide variety of printing and duplication services to accommodate all your printing needs.

Video Editing

Provides digital video recording, video editing and media duplications.

Web Design

Provides Web site design and support for faculty, staff, student organizations and special events.

Writing Services

Provides written and spoken content for internal and external distribution.

Information Technology

The Information Technology Department provides access to the University's computing, networking, centralized administrative systems and technical support resources to the faculty, students, staff, and administration of the University. The department is also responsible for creating and maintaining a technology infrastructure to support computer networks and telecommunication.

Help Desk (end-user support)

The Help Desk provides the University community with a single point of contact for Information Technology's support services. If a member of the community is experiencing a problem with their computer, telephone, network connection, or any other related problem, they must contact the Help Desk in order for a technician to be dispatched.

Clinical and Educational Centers

The College of Health Professions has developed a teaching relationship with a number of educational and healthcare facilities to broaden the learning experience of its students. These facilities are listed at the end of the catalogue.

Department of Clinical Laboratory Sciences

Degree Programs

Bachelor of Science in Medical Technology

Master of Science in Clinical Laboratory Science

Entry-Level Master of Science in Clinical Laboratory Science

Continuing Education

Clinical Laboratory Science online courses

Programmatic Accreditations

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

The Department of Clinical Laboratory Sciences is an investigative health science discipline dedicated to the education and promotion of all aspects of clinical laboratory science practice concerned with diagnosis, prognosis and treatment of disease for the maintenance of health. To keep pace with today's changing health care system, the College Health Professions must educate health care workers to assume increased responsibility for academic teaching, clinical research, continuing education and career development, educational program development and evaluation, clinical supervision and administration, health care planning, and health care evaluation.

The mission of the Department of Clinical Laboratory Sciences is to uphold this vision in providing a comprehensive, quality education for the allied health professions encompassed in the clinical laboratory.

Bachelor of Science Degree

Medical Technology

The Medical Technology Program, accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), is one of a limited number of two-year (third and fourth baccalaureate years) programs in the country for students who seek the highest level of training in Medical Technology. Designed primarily for students with a minimum of two years of college, the curriculum leads to a baccalaureate degree in Medical Technology, and qualifies the graduate to take a National Certification Examination. The Medical Technology curriculum, as explained in the program brochure is designed to accommodate both the full-time and part-time student. Didactic coursework is followed by clinical training during rotations through our clinical affiliates. Clinical assignments are made within a 50-mile radius of the North Chicago campus.

Coursework directly relevant to the expanded role of today's Medical Technologist include, laboratory management, quality management, research theories and education methods. Students emerge from the Medical Technology program highly skilled in the use of clinical laboratory procedures, but more importantly, trained to assume leadership roles in delivering quality patient care.

Advanced Standing and Proficiency Testing

Once admitted to the Medical Technology program in the Department of Clinical Laboratory Sciences, a student with MLT certification and experience may receive advanced standing and is eligible to take a clinical practicum proficiency examination with permission of the instructor. The student must present documentation of work experience and meet the individual instructor's criteria before the exam can be administered. Proficiency testing for lecture courses is not an option.

Clinical Laboratory Scientist/Medical Technologist Entry-Level Competencies

Upon graduation, the baccalaureate degreed individual will be expected to demonstrate proficiency in the following:

- A. Developing and establishing procedures for collecting, processing, and analyzing biological specimens and other substances;
- B. Performing analytical tests of body fluids, cells, and other substances;
- C. Integrating and relating data generated by the various clinical laboratory departments while making decisions regarding possible discrepancies;
- D. Confirming abnormal results, verifying quality control procedures, executing quality control procedures, and developing solutions to problems concerning the generation of laboratory data;
- E. Making decisions concerning the results of quality control and quality assurance measures, and instituting proper procedures to maintain accuracy and precision;
- F. Establishing and performing preventive and corrective maintenance of equipment and instruments as well as identifying appropriate sources for repairs;
- G. Developing, evaluating, and selecting new techniques, instruments and methods in terms of their usefulness and practicality within the context of a given laboratory's personnel, equipment, space, and budgetary resources;
- H. Demonstrating professional conduct and interpersonal skills with patients, laboratory personnel, other healthcare professionals, and the public;

- I. Establishing and maintaining continuing education as a function of growth and maintenance of professional competence;
- J. Providing leadership in educating other health personnel and the community;
- K. Exercising principles of management, safety, and supervision.

Admission Procedures and Requirements

Minimum of 60 Semester or 90 Quarter hours of undergraduate education (from an accredited institution) to include the following:

	Semester Hours	Quarter Hours
ENGLISH (1 year)	6	8
COLLEGE MATHEMATICS	9	12
BEHAVIORAL-SOCIAL SCIENCE	9	12
BIOLOGY	8	12
CHEMISTRY	8	10
ORGANIC CHEMISTRY	4	5
ELECTIVES	16	31

Science courses recommended.

MLT courses are transferable as electives.

- Cumulative Grade Point Average of 2.5 (on an undergraduate scale of 4.0)
- TOEFL Exam if education is from a foreign University where English is not the native language
- International transcripts must be evaluated by an approved U.S. evaluation agency
- Completed application form and official transcripts from all colleges previously attended
- Two letters of recommendation
- Background check
- Personal interview
- Entrance Exams at time of the interview

Graduation Requirements

- A minimum of 180 quarter hours of undergraduate credit to include 90 quarter hours of courses from this university
- A minimum overall grade point average of 2.0 on a 4.0 scale.

CURRICULUM

The Medical Technology/Clinical Laboratory Science curriculum is designed to accommodate both full-time and part-time students. Students may complete the program in two years full-time or three years part-time, depending on the number of courses in which they enroll per year. However, scheduling of clinical practicums is dependent upon the availability of clinical sites.

1st Year	2nd Year
Summer	Summer
Medical Terminology Laboratory Skills Utilization Research Methods Professional Issues and Ethics	CLS Practicum
Fall	Fall
Hematology I Immunology Teaching Strategies	Clinical Chemistry I Microbiology I
Winter	Winter
Hematology II Body Fluids Analysis Introduction to Molecular Biology Molecular Biology Techniques	Clinical Chemistry II Microbiology II
Spring	Spring
Immunohematology Leadership and Management CLS Practicum	Mycology Parasitology CLS Practicum CLS Comprehensive***

***online course

Note: Some students may need a third summer quarter to complete all clinical requirements. Students must provide their own transportation to clinical sites. Clinical sites are located within 50 miles of the University.

Required Courses

HCLS 544 Medical Terminology (online) 3 q.h.*

After reviewing the basics of word construction and field of medicine, the student will examine medical terminology using a body systems approach in an independent study format.

HMTC 320 Laboratory Skill Utilization (Lecture/Laboratory) 3 q.h.

In this course students will refine their microscopy and pipetting skills along with laboratory mathematics, quality control and statistics. Laboratory safety and phlebotomy will be introduced as well as medical ethics and regulations governing medical laboratories.

HMTC 341 Clinical Biochemistry I (Lecture) 3 q.h.

Procedures and principles of biochemical determinations performed in the clinical chemistry laboratory are presented in this course. Topics include instrument principles and evaluation followed by the metabolism and laboratory analysis of enzymes, proteins, carbohydrates and lipids. Assessment of anion/cation and electrolyte balance is also included. Prerequisite: Organic Chemistry.

HMTC 343 Clinical Biochemistry II (Lecture) 3 q.h.

This course is an advanced study of special topics in clinical chemistry oriented toward clinical correlation of basic chemistry analysis to pathophysiology. Topics include endocrinology, cardiac markers, renal and liver functions. Prerequisite: HMTC 341.

HMTC 345 Clinical Biochemistry III (Lecture) 3 q.h.

This course is an advanced study of special topics in clinical chemistry oriented toward clinical correlation of basic chemistry analysis to pathophysiology. Topics include toxicology, tumor markers, vitamin and trace elements. Prerequisite: HMTC 343.

HMTC 346 Body Fluid Analysis (Lecture/Laboratory) 3 q.h.

In this course students will study the process and perform tests for body fluid analysis. Emphasis will be made on correlation of macroscopic and microscopic findings as well as correlation of test results to disease states.

HMTC 350 Hematology I (Lecture/Laboratory) 6 q.h.

Basic principles and procedures of Hematology testing will be explored and practiced in this class. Normal and abnormal maturation, morphology and function of human blood and bone marrow cells will also be examined. Normal hemostasis systems will also be explored.

HMTC 352 Hematology II (Lecture/Laboratory) 6 q.h.

This course will examine the laboratory findings, pathophysiology and diagnosis of anemias, leukemias and other hematologic disorders. Abnormal hemostasis will be discussed along with laboratory findings. Advanced testing for the diagnosis of anemias, leukemias and hemostasis disorders will be practiced. Prerequisites: HMTC 350.

HMTC 354 Immunohematology (Lecture/Laboratory) 6 q.h.

This course is an introduction to red cell antigens and antibodies, basic principles and laboratory techniques of blood banking, including donor selection, blood grouping, compatibility testing and antibody identification.

HMTC 362 Mycology (Lecture/Laboratory) 3 q.h.

This course is a study of fungi which can cause infectious disease processes in man. Laboratory isolation and identification techniques will be emphasized. Prerequisite: General Biology.

HMTC 363 Parasitology (Lecture/Laboratory) 3 q.h.

This course is a study of medically significant parasites and their relationship to man. Laboratory identification techniques and diagnostic stages of these organisms will be emphasized. Prerequisite: General Biology.

HMTC 364 Clinical Microbiology I (Lecture/Laboratory) 6 q.h.

Clinical laboratory techniques used in the isolation and identification of pathogenic microorganisms will be presented. These techniques will be exercised through both computer assisted and hands on processing, culturing, recording, and interpreting of biochemical tests on clinical specimens. Areas of study include: Aerobic gram-positive cocci and bacilli, Haemophilus, Neisseria, Enterobacteriaceae and Campylobacter. Prerequisite: General Biology and preferably a Microbiology course.

HMTC 365 Clinical Microbiology II (Lecture/Laboratory) 6 q.h.

This course will apply and enforce knowledge and skills acquired in HMTC 364. Observation and study of less commonly isolated microorganisms such as nonfermenters, anaerobes and viruses will be presented as well as more advanced techniques. Prerequisite: HMTC 364.

HMTC 367 Immunology/Serology (Lecture) 4 q.h.

This is an introductory course dealing with the principles of acquired and natural immunity with reference to antigens, antibodies, immune response, complement, inflammation phagocytosis, susceptibility, and the concepts of cell mediated immunities and immunopathology. The student will be instructed in the theory, practice, and application of modern immunology/serological testing.

HMTC 499 Clinical Laboratory Sciences Comprehensive (Independent Study) 1 q.h.

This course is an intensive competency assessment of clinical laboratory sciences knowledge and skills. The major disciplines of chemistry, hematology, immunohematology, immunology and microbiology will be reviewed followed by a mock board examination.

HCLS 500 Professional Issues & Ethics (Lecture/Independent Study) 3 q.h.

This course is designed as an introduction to the profession. Students will become familiar with the history and traditions of the Clinical Laboratory Science profession, and will learn about the work of Clinical Laboratory Scientists as they function in various health care settings. Included in this course is an exploration into medical ethics and professional behavior.

HCLS 520 Leadership Skills 3 q.h.*

This graduate course is designed to provide the healthcare manager with theory and skills in the areas of leadership, management, communication, motivation, interviewing, discipline and legal guidelines. The student will develop skills through lecture, discussion, group projects and case studies.

HCLS 530 Teaching Strategies 3 q.h.*

A survey course designed to acquaint the students with basic educational concepts; content includes developing objectives, teaching methodologies, evaluation procedures, student-teacher relationships, communication skills, and basic educational psychology.

HCLS 690 Research Methodologies 3 q.h.*

An introduction to the research process will be presented with the opportunity to develop a research proposal.

HCLS 620 Introduction Molecular Biology to 2 q.h.

This course is designed to provide the student with a basic understanding of the principles of instrumentation and clinical applications of flow cytometry, to include the basic principles of molecular diagnostics. Prerequisite: Enrollment in the program.

HCLS 622 Molecular Diagnostic Techniques 2 q.h.

This course is designed to provide the student with a review of genetics and an overview of DNA testing techniques including polymerase chain reactions and restriction enzyme cleavage. Prerequisite: HCLS 620.

* indicates graduate level courses

Clinical Education

A student with no clinical experience will be required to spend approximately 25 weeks at affiliated clinical sites. A student with clinical experience will be evaluated based on individual experience as a student and as a technician. The maximum number of weeks in each area at affiliated clinical sites will be determined based upon documented past performance and performance in our student laboratory. Students must provide own transportation to clinical sites, located within 50 miles of the University.

HMTC 440 Enrichment Practicum 1 q.h.

This course is a clinical practicum which allows the student to gain additional experience at facilities offering an alternate career routes to the traditional hospital laboratory setting. Sites may include a veterinary/zoo laboratory, fertility clinic or other specialty medical laboratories.

HMTC 442 Clinical Urinalysis 1 q.h.

This course is a one-week clinical practicum dealing with biochemical testing and microscopic examination of urine and body fluids. Prerequisite: HMTC 346.

HMTC 443 Clinical Chemistry 2-5 q.h.

This course is a general clinical chemistry practicum with emphasis on automation, to include discussion describing accuracy, limitations and dynamics of these procedures. Prerequisite: HMTC 341/343/345.

HMTC 444 Toxicology 1 q.h.

This course is a clinical practicum which allows the student to gain experience in a toxicology laboratory. Students will also be witness to the “chain of custody” for legal specimens and testing and may also have an opportunity to observe court proceedings.

HMTC 456 Clinical Hematology 2-5 q.h.

This course is a general clinical practicum of hematology procedures. Prerequisite: HMTC 352/353.

HMTC 457 Clinical Immunohematology 2-4 q.h.

This course is a general clinical practicum of blood banking procedures. Prerequisite: HMTC 354/355.

HMTC 464 Clinical Bacteriology 3-5 q.h.

This course is a general clinical practicum in the isolation and identification of organisms from clinical materials and emphasizing application of basic theory and correlation of laboratory data with the infectious processes. Prerequisite: HMTC 364/365.

HMTC 465 Clinical Immunology 1 q.h.

This course is a general clinical practicum dealing with the theories and application of agglutination, flocculation complement fixation, and fluorescent antibody techniques. Prerequisite: HMTC 367.

HMTC 466 Clinical Parasitology 1 q.h.

This course is a general clinical practicum in the isolation and identification of parasitic organisms from clinical materials. Prerequisite: HMTC 363.

HMTC 467 Clinical Mycology 1 q.h.

The course is a general clinical practicum in the isolation and identification of fungi from clinical materials and correlation of laboratory data with infectious processes. Prerequisite: HMTC 362.

HMTC 474 Management Practicum 1-3 q.h.

Students will be assigned clinical preceptorships under the supervision of administrators and department managers to work on a special project or problem. Prerequisite: HCLS 520.

Electives**HMTC 356 Immunohematology (Independent Study) 3 q.h.**

This course will concentrate on the research and development of test methodology and provide the student with skills and techniques for comparison or correlation studies in immunohematology.

HMTC 357 Erythrocyte Disorders (Independent study) 2 q.h.

This course provides opportunity to the student for detailed literature research of a specific erythrocyte disorder or group of disorders.

HMTC 358 Leukocyte Disorders (Independent study) 2 q.h.

This course provides opportunity to the student for detailed literature research of a specific leukocyte disorder or group of disorders.

HMTC 359 Introduction to Phlebotomy Techniques

(Lecture/Laboratory or Independent Study) 2 q.h.

This course in basic phlebotomy techniques and topics is designed as a self-study package of materials. Areas to be covered will consist of venipuncture and capillary puncture, patient contact, medical ethics, anatomy and physiology of the vascular system along with selected medical/legal problems. Hands-on technique presentation within our student laboratory will be observed by an instructor, followed by a clinical rotation.

HMTC 360 Hemostasis Disorders (Independent study) 2 q.h.

This course provides opportunity to the student for detailed literature research of a specific coagulation/fibrinolytic disorder or group of disorders.

HMTC 361 Hematology Review (Independent Study) 3 q.h.

This is a course designed for the students needing a review of hematology prior to or concurrent with their clinical rotation in hematology. Prerequisites: HMTC 350/352.

HMTC 368 Immunology Independent Study 2 q.h.

This course will provide the student with techniques and skills for correlation studies in immunology and will culminate with a short research paper on a related topic of interest.

HMTC 370 Bacteriology Review (Independent Study) 3 hr

This is a course designed for the students needing a review of clinical bacteriology prior to or concurrent with their clinical rotation in bacteriology.

Prerequisites: HMTC 364 /365.

HMTC 371 Parasitology Review (Independent Study) 1 hr.

This is a course designed for the students needing a review of clinical parasitology prior to or concurrent with their clinical rotation in parasitology. Prerequisite: HMTC 363.

HMTC 372 Mycology Review (Independent Study) 1 hr.

This is a course designed for the students needing a review of clinical mycology prior to or concurrent with their clinical rotation in mycology. Prerequisite: HMTC 362.

HMTC 373 Virology (Independent Study) 1 hr.

This course provides opportunity to the student for detailed literature research of a specific viral infection or group of infections. Prerequisites: HMTC 367.

HMTC 416 Chem-Case Studies in Biochemistry (Independent Study) 2 q.h.

This course is designed to provide the student with an opportunity to work on case studies in biochemistry. Special attention will be focused on the areas of carbohydrate and lipid metabolism, renal function, electrolytes, and thyroid function. Prerequisites: HMTC 341 and HMTC 343.

HMTC 417 Chem-Cardiac Markers (Independent Study) 1 q.h.

This course is designed to provide an in-depth look at markers used in the diagnosis of myocardial infarct. Markers to be evaluated include LD and CK isoenzymes, CK isoforms, Troponin and Myoglobin. Prerequisites: HMTC 341/343.

HMTC 418 Chemistry-Tumor Markers (Independent Study) 1 hr.

This course is designed to provide an in-depth look at tumor markers and their use in the diagnostic testing. Prerequisites: HMTC 341/343.

HMTC 419 Chemistry-Toxicology (Independent Study) 1 hr.

This course is designed to provide a fundamental understanding of toxicology testing. Prerequisites: HMTC 341/343.

HMTC 420 Clinical Biochemistry Review (Independent Study) 3 hrs.

This is a course designed for the students needing a review of clinical biochemistry prior to or concurrent with their clinical rotation in chemistry. Prerequisites: HMTC 341/343.

HMTC 434 Professional Research Seminar 1 q.h. max. 3

Independent study to be arranged. The course is an investigation into basic science research that affects clinical practice. Students will attend selected university based basic science seminars followed by a detailed written report of the presentation. 1 q.h./quarter (max. 3 q.h.)

Master of Science in Clinical Laboratory Science

The Department offers two masters-level programs in Clinical Laboratory Sciences, Advanced and Entry-Level.

Advanced Master of Science in Clinical Laboratory Science

The Advanced Master of Clinical Laboratory Science is a traditional post-professional graduate degree designed to enable the certified medical technologist or science major to improve his/her professional competence and to develop his/her capacity for both continuing and self-directed study in specialized areas of the clinical laboratory. Thesis and non-thesis options are available. This course of study is offered primarily online and on a part-time basis so the student may continue full-time employment.

Admission Requirements

- Bachelor's Degree (from an accredited institution)
- Certified Medical Technologist (ASCP, NCA)
- Cumulative Grade Point Average of 2.5 with science G.P.A. of 2.8 (on an undergraduate scale of 4.0)
- Minimum 1 year work experience as a CLS/MT (recommended)
- TOEFL Exam if applicant is from a country where English is not the native language.
- International transcripts must be evaluated by an approved U.S. evaluation agency
- International students are requested to take the GRE to include the Biology Subject Exam.

Graduation Requirements

- A minimum of 40 quarter hours
- B (3.0) Grade Point Average
- No more than 8 quarter hours of graduate credit may be transferred from another program.
- Credit transfer is dependent upon Departmental approval.

Application Procedure

- Download the application packet or contact the Admissions Office or the Department of Clinical Laboratory Sciences for an application packet.
- Send official transcripts.
- Send copy of diploma, and copy of MT or CLS certification.
- Send letters of recommendation.
- An interview will be required once the application file is complete.

Curriculum

Most classes are conducted in the online environment, so that the working technologist may continue full-time employment. Students will not be allowed more than 5 years to complete the degree.

Required Courses Thesis Option

Core Courses	9 q.h.
Thesis Courses	13 q.h.
Minimum of one leadership elective	3 q.h.
Minimum of one education elective	3 q.h.
Minimum of one ethics elective	3 q.h.
Other electives	9 q.h.

Required Courses Non-Thesis Option

Core Courses	9 q.h.
Thesis Courses	6 q.h.
Minimum of one leadership elective	3 q.h.
Minimum of one education elective	3 q.h.
Minimum of one ethics elective	3 q.h.
Other electives	16 q.h.

Graduate Course Descriptions

Core Courses

HPTH 501 Practical Statistics 3 q.h.

This course is an introductory graduate course covering basic principles of biometry and applied statistical methods utilizing current computer software.

HNUT 504 Critical Skills for Online Learning

Introduces students to online learning and provides them with the basic skills and knowledge necessary to participate in the distance education environment. Other topics addressed include copyright/trademark issues in the online setting; evaluation criteria for assessing Web site content accuracy, reliability, and usability; effective and efficient Internet and online literature database searches; and issues surrounding electronic communication of protected health information.

HNUT 505 Professional Communication 3 q.h.

This course provides you with the skills and techniques to improve the effectiveness of your professional presentations in different health professional settings with an emphasis on different methods to organize a speech, speaking techniques, and development of effective PowerPoint and poster presentations.

Thesis Courses (must be taken in sequence; adjacent courses may be taken concurrently.)

HCLS 690 Research Methodologies 3 q.h.

An introduction to the research process will be presented with the opportunity to develop a research proposal.

HCLS 691 Proposal Development 1 q.h.

Students will prepare a research proposal and an Institutional review board application for their selected thesis. They will assure that all proposed research for their thesis will comply with HIPAA regulations. Prerequisite: HCLS 690 Research Methodologies.

HCLS 692 Literature Review 2 q.h.

Students will maintain a working bibliography while conducting a detailed literature search of background information for their thesis topic.

HCLS 693 Methods Development 2 q.h.

Students will further develop their research tools and assemble the materials and methods section of their thesis.

HCLS 694 Data Collection 2 q.h.

In compliance with HIPAA regulations, students will proceed with the data collection process for their research thesis.

HCLS 695 Results Analysis 2 q.h.

Students will complete the analysis of their data, draw conclusions and prepare a discussion of their research findings.

HCLS 696 Thesis Defense 1 q.h.

Students will prepare and deliver a thorough presentation of their research thesis and defend their findings before a panel of faculty from the College of Health Professions. Upon approval of the thesis defense, students will have their thesis bound and deliver the required amount of bound copies to the department.

HCLS 697 Project Presentation 1 q.h.

Students will prepare and deliver a thorough presentation of their extensive literature review along with suggestions for research that could stem from it.

Ethics Electives

HCLS 502 Professionalism in Research 3 q.h.

Through examination and discussion of case studies students will explore the ethics of scientific research including: integrity, mentoring, record keeping, data ownership, conflict of interest and animal and human experimentation.

HCLS 503 Medical Ethics 3 q.h.

Through examination and discussion of case studies student will explore medical ethics including: values, principles, justice, autonomy, veracity, fidelity and avoidance of killing.

Leadership Electives

HCLS 520 Leadership Skills 3 q.h.

This course is designed to assist the student in developing problem-solving skills, personal and interpersonal effectiveness, and appreciation for others' leadership styles to forge collaborations (i.e., strategic partnering) which are essential to accomplishing the mission and goals of healthcare organizations. Theories of leadership, motivation, power, communication, and conflict management will also be examined and applied. The student will be challenged to develop a profile of oneself as a leader and create an action plan for leadership development. A personal inventory will set the foundation for planned personal and role change.

HCLS 524 Evaluating Professional Competence 3 q.h.

This course is designed to enable you to effectively develop and implement the appropriate skills and tools to evaluate performance of either a student or employee in a clinical laboratory setting.

HCLS 525 Consulting Skills 3 q.h.

This course is designed to provide the health care professional with practical skills needed for internal and external consulting. The course will focus on internal consulting covering skills and techniques in contracting, gathering data, preparing feedback, dealing with resistance and negotiating.

HCLS 618 Current Issues in Laboratory Administration 3 q.h.

This course will include topics currently faced by the laboratory administrator in the ever-changing healthcare environment. Topics under discussion may include health care reform, OSHA compliance, the American with Disabilities Act, HIPAA compliance, laboratory information management and other current topics. Upon completion of this course the student will be able to analyze the current information and formulate their own strategies for implementing changes in their own laboratory environment.

Students may also take leadership electives from other departments in CHP.

HHCM 507 Healthcare Informatics

This course will provide an overview of the management of data and information resources critical to effective and efficient healthcare delivery. Course concepts will include: insuring accurate and complete data; coding for reimbursement; ensuring quality of data; analyzing data for decision support, research, and public policy; and the protection of patient privacy and security. Interactions with healthcare entities such as patient care organizations, payers, research and policy agencies, etc. will also be discussed.

HHCM 508 Marketing Healthcare

This course will examine critical aspects of marketing management including price, product, promotion, and distribution of healthcare services as well as internal and external forces that impact marketing. The student will be introduced to strategies that provide competitive opportunities to create value for the healthcare organization and improve customer satisfaction.

HHCM 550 Strategic Planning in Healthcare

This course is intended to introduce the student to strategic planning in healthcare organizations. The course content provides an overview of the strategic planning process including the elements required to successfully develop and implement short and long-term plans. In addition to application of the elements to a variety of healthcare situations, students will have the opportunity to apply this process to their own educational plan for personal academic success.

HHCM 515 Healthcare Law

This course reviews the American legal system as the context within which to consider contemporary medico-legal issues. The course's intent is to provide a legal framework where healthcare management issues can be explored in collaboration with legal counsel. The curriculum addresses such topics as: professional liability, corporate entity risk considerations, and relevant legislative activities reshaping the healthcare industry and tort reform initiatives. Representative case law and studies will augment the legal theories presented in the course.

HHCM 516 Risk and Quality Management in Healthcare

This course will explore the risk and quality management processes in depth. The student will be introduced to risk management strategies that reduce the likelihood of harm to people and financial loss in addition to quality management activities to assure that standards are met and to optimize the quality of healthcare. As these functions are interwoven throughout the organization (e.g., information management, medical staff issues, insurance, claims administration, etc.), the concept of risk and quality management as “everyone’s responsibility” will be emphasized.

HHCM 517 Management Ethics

The curriculum will provide an overview of bioethics including a broad range of potential concerns in which the healthcare manager may become involved. This encompasses a familiarization with bioethics nomenclature, understanding the ethical decision-making process, and developing an appreciation for the ethical challenges of administrators and clinical practitioners. Legal and risk management issues surrounding ethical dilemmas in healthcare organizations will be examined in addition to the roles of institutional ethics committees and consultants.

HHCM 521 Evidence Based Management

This course provides an introduction to the utilization of best evidence in managing healthcare issues. The curriculum is intended to prepare the student to identify management problems and develop a related path of focused inquiry, evaluate reliable databases and searching strategies to find evidence, and base management decisions on the best evidence available.

HHCM 522 Healthcare Delivery Systems

The historical evolution of health services provides a backdrop for the core focus of this course: the study of the healthcare system. The curriculum includes an analysis of the current changes in the healthcare environment and the problems affecting the delivery of healthcare in the United States. A study of the process of policy formation underscores the complexity and difficulty of government action. Economic and political approaches to health policy analysis will be discussed. The concepts of cost, access, and quality will be threaded throughout the course.

HNUT 525 Evaluation 3 qh.

This course is designed to enable the student to effectively develop and implement the appropriate skills and tools to evaluate the performance of the employee in the healthcare setting. Prerequisite: Enrollment in program.

HHCM 526 Leadership and Management 3 qh.

This course is designed to assist the student in developing problem-solving skills, personal and interpersonal effectiveness, and appreciation for others’ leadership styles to forge collaborations (i.e., strategic partnering) which are essential to accomplishing the mission and goals of healthcare organizations. Theories of leadership, motivation, power, communication, and conflict management will also be examined and applied. The student will be challenged to develop a profile of oneself as a leader and create an action plan for leadership development. A personal inventory will set the foundation for planned personal and role change. Prerequisite: Enrollment in program.

HHCM 551 Financial Management in Healthcare 3 qh.

The course is intended to prepare the student to effectively interact with financial management staff and participate in various aspects of financial control and planning. The curriculum provided an historical perspective of financial management in healthcare, identifying trends in the industry and the forces that influence the financing of healthcare organizations. Financial statements, the interpretation and analysis of financial reports, and topics such as cost-benefit analysis, budgeting, and capital management will also be addressed. Consideration will be given to the cost effectiveness and financial future of healthcare organizations.

Education Electives

HCLS 530 Teaching Strategies in the Professional Setting 3 q.h.

This course is designed for students in management and education to aid with planning, implementing and evaluating courses as well as in service programs. It will provide the student with methods and models for design and realistic evaluation models as well as criteria and selection of audiovisual aids.

HCLS 531 Creating Self-Instructional Units 3 q.h.

Students will work through the process for and develop a self-instructional unit in an area of their own interest. Those benefiting from this class include but are not limited to persons responsible for: patient education, allied health students and new employee training. This course itself is presented mostly as an SIU. SIUs produced will be submitted for publication. Prerequisite: HCLS 530 Teaching Strategies.

HCLS 532 Designing Simulations for Clinical Education 3 q.h.

In this course the concepts of simulations and games and their applications to education will be explored. Students will work through the process of designing a simulation in their area of interest.

HCLS 560 Clinical Teaching Practicum 3 q.h.

This course is designed in order to give a student interested in teaching the practical experience. A practicum may be chosen in any of the specialty areas. The student will be required to give lectures and run the concurrent student laboratory sessions. Prerequisite: HNUT 530 Teaching Strategies.

Students may also take education electives from other departments in CHP.

Clinical Laboratory Science Electives

HCLS 544 Medical Terminology 3 q.h.

This is an independent computer assisted course used to reinforce the advancing language of medical and biological sciences and technology, designed to master the body of knowledge essential to health care professional practice and to communicate effectively with colleagues in various disciplines.

HCLS 545 Clinical Laboratory Science for the Health Professional 3 q.h.

This course aims at providing sufficient technical and clinical information regarding selected hematology, chemistry and microbiology/immunology laboratory procedures to allow the clinician adequate understanding, selection and interpretation skills when addressing these procedures. A series of assigned readings couple with expected objectives and corresponding case studies are utilized throughout to familiarize the student with the interactive diagnostic value of laboratory procedures.

HCLS 605 Clinical Pathology Correlation 3 q.h.

This course is an intensive study of a single disease with significant impact on the total healthcare system, i.e., diabetes mellitus, cardiovascular disease. Student will evaluate current research topics.

HCLS 610 Laboratory Safety 3 q.h.

This course is designed as an update for laboratory personnel and others interested in the current guidelines for medical laboratory safety. Laboratory safety officers and committee members intending to write a certification examination will benefit by this review.

HCLS 615 Journal Club 1 q.h. per quarter

This course is designed as a lecture/discussion format. Current topics of the designated area will be selected from approved journals. Student will choose an approved topic, do the necessary library research, and arrange a presentation complete with a lecture outline and references.

HCLS 620 Introduction to Molecular Biology 2 q.h

This course is designed to provide the student with a basic understanding of the principles of instrumentation and clinical applications of flow cytometry, to include the basic principles of molecular diagnostics. Prerequisite: Enrollment in the program.

HCLS 621 Molecular Biology Techniques 2 q.h.

The student will perform laboratory determinations utilizing DNA testing techniques. Special attention is focused on paternity testing and forensic uses of DNA testing.

HCLS 632 Accelerated Biochemistry I 4 q.h.

This course is one of three that focuses on the principles and procedures of biochemistry used in the clinical chemistry laboratory. Student work independently on a series of assigned readings and modules coupled with expected objectives and study questions. Upon completion of all three courses, students will participate in a chemistry clinical rotation at a hospital affiliate. Once the clinical rotation is complete, the student has met all the qualifications to sit for the *ASCP Board of Registry* exam. Topics of this course include laboratory safety, laboratory mathematics and statistics, quality control and assurance, introduction to clinical chemistry, and analytical methods. Also included in are topics relating to the physiology of protein and carbohydrates in the human body.

HCLS 633 Accelerated Biochemistry II 4 q.h.

This course is a continuation of HCLS 632. Topics include the metabolism and analysis of lipids, enzymes, bilirubin and other hemoglobin degradation products as well as therapeutic and abused drugs. The assessment of electrolytes and anion/cation balance is also included.

HCLS 634 Accelerated Biochemistry III 4 q.h.

This course is a continuation of HCLS 633. System functions relating to the endocrine, liver, cardiac, lymphatic, and renal systems are emphasized. DNA technology as well as the effects of vitamins and trace elements on the human body are also discussed. At the completion of this course, a comprehensive mock registry exam will be given to the student which will include the material from HCLS 632, 633 and 634.

HCLS 649 Independent Study in Clinical Chemistry 1 q.h.

This elective course is an independent library research study culminating in a final paper on a topic selected by the student with instructor approval.

HCLS 650 Morphology of Blood and Bone Marrow Cells 2 q.h.

This course includes a review of cell maturation, normal and abnormal morphology as well as exploring the technologist's role in bone marrow collection and testing.

HCLS 651 Blood Cell Morphology — Clinical Correlations 1 q.h.

This course is a review of peripheral blood cell morphology and correlation with histograms, cytograms and hematologic disorders.

HCLS 655 Erythrocyte Disorders 3 q.h.

Quantitative and qualitative evaluation of red cell disorders is examined. This includes the pathogenesis and classification of anemia.

HCLS 657 Hemoglobinopathies and Thalassemia 3 q.h.

This course is a review of the differential diagnosis of hemoglobinopathies and thalassemia. Students will interpret laboratory results including hemoglobin electrophoresis patterns.

HCLS 662 Classification of Leukemia 3 q.h.

The classification of leukemia is examined integrating morphology, cytochemistry, immunochemistry and chromosome analysis. Students will work through various case studies.

HCLS 666 Advanced Concepts in Hemostasis 3 q.h.

Current theories in hemostasis and thrombosis will be explored along with new diagnostic procedures.

HCLS 668 Advanced Body Fluid Analysis 3 q.h.

This course is a study of the analysis of various body fluids excluding routine urinalysis. This includes CSF, synovial fluid, serous fluids and semen analysis. Students may have an opportunity to observe laboratory procedures at a fertility clinic.

HCLS 669 Independent Study in Hematology 1 q.h.

This elective course is an independent library research study culminating in a final paper on a topic selected by the student with instructor approval.

HCLS 670 Clinical Immunology 4 q.h.

The course is divided into three sections. The first section is a discussion of reactions by the host in response to challenges. It addresses fundamental mechanisms of the immune system, such as antigen recognition, self versus non-self, beneficial specific and non-specific immune responses, tumor surveillance, and hypersensitivity. The second section is an in-depth discussion of antigens and antibodies and their interaction in serologic methods. Specific examples of commonly performed laboratory tests are presented following the general discussion about the method. The final section is a discussion of immunologic diseases in which measuring an immune product or reaction yields significant information for diagnosing and monitoring the disease.

HCLS 672 Processes in Pathology and Bacteriology 3 q.h.

The course presents indigenous prokaryotic flora and pathogens of man in relation to their role in disease. The problems inherent in determining the etiologic agent of infection and investigating the pathogenesis of disease are approached. Areas of concentration will explore the events of infectious disease, host responses (inflammation, immune response) and mechanisms of toxin action to bacterial genetics.

HCLS 680 Fundamentals of Epidemiology 3 q.h.

Presentation of concepts and methods of epidemiology as they are applied to a variety of disease problems. Emphasis, as illustrated with studies on specific diseases, will be placed on the integration of biological and statistical elements.

HCLS 689 Independent Study in Clinical Microbiology 1 q.h.

This elective course is an independent library research study culminating in a final paper on a topic selected by the student with instructor approval.

Entry-Level Master of Science in Clinical Laboratory Science

The Entry-Level Master's option is designed for students with a baccalaureate degree in biology or chemistry who desire a master's degree but also wish to be eligible for certification in clinical laboratory sciences. This program provides specialized study, including a clinical practicum, in clinical chemistry, hematology, immunology, immunohematology, medical microbiology, and molecular diagnostics. Upon completion of the program students are eligible to take a national certification examination. Building this base requires completion of specialty courses in the medical technology undergraduate program to include advanced objectives, along with the traditional master's online curriculum. Accelerated and full-time options are available, allowing you to complete the program at your own pace. However, scheduling of Clinical practicums is dependent on availability of clinical sites.

Advanced Standing & Proficiency Testing

Once admitted to the Medical Technology program in the Department of Clinical Laboratory Sciences a student with an MLT certification and experience may receive advanced standing and is eligible to take a clinical practicum proficiency examination with permission of the instructor. The student must present documentation of work experience and meet the individual instructor's criteria before the exam can be administered. Proficiency testing for lecture courses is not an option.

CLS/Medical Technologist Entry-Level Competencies

Upon graduation the entry-level degreed individual will be expected to demonstrate proficiency in the following:

1. Developing and establishing procedures for collecting, processing, and analyzing biological specimens and other substances;
2. Performing analytical tests of body fluids, cells, and other substances;
3. Integrating and relating data generated by the various clinical laboratory departments while making decisions regarding possible discrepancies;

4. Confirming abnormal results, verifying quality control procedures, executing quality control procedures, and developing solutions to problems concerning the generation of laboratory data;
5. Making decisions concerning the results of quality control and quality assurance measures, and instituting proper procedures to maintain accuracy and precision;
6. Establishing and performing preventive and corrective maintenance of equipment and instruments as well as identifying appropriate sources for repairs;
7. Developing, evaluating, and selecting new techniques, instruments and methods in terms of their usefulness and practicality within the context of a given laboratory's personnel, equipment, space, and budgetary resources;
8. Demonstrating professional conduct and interpersonal skills with patients, laboratory personnel, other health care professionals, and the public;
9. Establishing and maintaining continuing education as a function of growth and maintenance of professional competence;
10. Providing leadership in educating other health personnel and the community;
11. Exercising principles of management, safety, and supervision.

Admission Procedures and Requirements

A Bachelor's degree in biology or chemistry (from an accredited institution) to include the following *minimum* requirements:

	Semester	Quarter
English (1 year)	6	8
College Mathematics	9	12
Behavioral-Social Science	9	12
Biology	8	12
Chemistry	8	10
Organic Chemistry	4	5
Electives	16	31
Science courses recommended.		

- Cumulative Grade Point Average of 2.5 (on an undergraduate scale of 4.0. Students desiring the accelerated program option must have a GPA of 3.0 or higher.
- TOEFL Exam if education is from a foreign university where English is not the native Language
- International transcripts must be evaluated by an approved U.S. evaluation agency
- Completed application form and official transcripts from all colleges previously attended
- Two letters of recommendation
- Background check
- Personal interview
- Written entrance exams

Graduation Requirements

- Completion of the 85 quarter hours curriculum described below.
- B (3.0) Grade Point Average
- No more than 8 quarter hours of graduate credit may be transferred from another program.
- Credit transfer is dependent upon Departmental approval.

Application Procedure

- Contact the Admissions Office or the Department of Clinical Laboratory Sciences for instructions on accessing the online application packet.
- Send official transcripts.
- Send copy of diploma.
- Send letters of recommendation.
- Application deadline is February 1st for May entry.
- An interview will be required once the application file is complete.

CURRICULUM

1st Year	2nd Year
Summer	Summer
Medical Terminology *** Laboratory Skills Utilization Research Methods *** Professional Issues and Ethics Interprofessional Healthcare Teams	CLS Practicum Evaluating Professional Competence***
Fall	Fall
Hematology I Immunology Teaching Strategies***	Clinical Chemistry I Microbiology I
Winter	Winter
Hematology II Body Fluids Analysis Introduction to Molecular Biology Molecular Biology Techniques	Clinical Chemistry II Microbiology II Statistics***
Spring	Spring
Immunohematology Leadership and Management*** CLS Practicum	Mycology Parasitology CLS Practicum CLS Comprehensive***

***online course

Note: Some students may need a third summer quarter to complete all clinical requirements. Students must provide their own transportation to clinical sites. Clinical sites are located within 50 miles of the University.

Course Descriptions

HPTH 501 Practical Statistics 3 q.h.

This course is an introductory graduate course covering basic principles of biometry and applied statistical methods utilizing current computer software.

Prerequisite: Enrollment in the program.

HCLS 520 Leadership Skills 3 q.h.

This graduate course is designed to provide the healthcare manager with theory and skills in the areas of leadership, management, communication, motivation, interviewing, discipline and legal guidelines. The student will develop skills through lecture, discussion, group projects and case studies. Prerequisite: Enrollment in the program.

HCLS 524 Evaluating Professional Competence 3 q.h.

This course is designed to enable you to effectively develop and implement the appropriate skills and tools to evaluate performance of either a student or employee in a clinical laboratory setting. Prerequisite: Enrollment in the program.

HCLS 530 Teaching Strategies in the Professional Setting 3 q.h.

This course is designed for students in management and education to aid with planning, implementing and evaluating courses as well as in service programs. It will provide the student with methods and models for design and realistic evaluation models as well as criteria and selection of audiovisual aids. Prerequisite: Enrollment in the program.

HCLS 544 Medical Terminology 2 q.h.

After reviewing the basics of word construction and field of medicine, the student will examine medical terminology using a body systems approach in an independent study format. Prerequisite: Enrollment in the program.

HCLS 620 Introduction Molecular Biology to 2 q.h

This course is designed to provide the student with a basic understanding of the principles of instrumentation and clinical applications of flow cytometry, to include the basic principles of molecular diagnostics.

Prerequisite: Enrollment in the program.

HCLS 622 Molecular Diagnostic Techniques 2 q.h.

This course is designed to provide the student with a review of genetics and an overview of DNA testing techniques including polymerase chain reactions and restriction enzyme cleavage. Prerequisite: HCLS 620.

HCLS 690 Research Methodologies 3 q.h.

This course is an introduction to research tools, nomenclature and processes of research methodologies. Students will begin forming their thesis questions and be assigned an advisor. Prerequisite: HCLS 501 or graduate course in statistics.

HMTC 320 Laboratory Skill Utilization (Lecture/Laboratory) 3 q.h.

In this course students will refine their microscopy and pipetting skills along with laboratory mathematics, quality control and statistics. Laboratory safety and phlebotomy will be introduced as well as medical ethics and regulations governing medical laboratories.

HMTC 341 Clinical Biochemistry I (Lecture) 3 q.h.

Procedures and principles of biochemical determinations performed in the clinical chemistry laboratory are presented in this course. Prerequisite: General and Organic chemistry.

HMTC 343 Clinical Biochemistry II (Lecture) 3 q.h.

This course is an advanced study of special topics in clinical chemistry oriented toward clinical correlation of basic chemistry analysis to pathophysiology. Prerequisite: HMTC 341.

HMTC 346 Body Fluid Analysis (Lecture/Laboratory) 3 q.h.

In this course students will study the process and perform tests for body fluid analysis. Emphasis will be made on correlation of macroscopic and microscopic findings as well as correlation of test results to disease states. Prerequisite: Enrollment in the program.

HMTC 350 Hematology I (Lecture/Laboratory) 6 q.h.

Basic principles and procedures of Hematology testing will be explored and practiced in this class. Normal and abnormal maturation, morphology and function of human blood and bone marrow cells will also be examined. Normal hemostasis systems will also be explored. Prerequisite: General Biology.

HMTC 352 Hematology II (Lecture/Laboratory) 6 q.h.

This course will examine the laboratory findings, pathophysiology and diagnosis of anemias, leukemias and other hematologic disorders. Abnormal hemostasis will be discussed along with laboratory findings.

Prerequisite: HMTC 350.

HMTC 354 Immunohematology (Lecture/Laboratory) 6 q.h.

This course is an introduction to red cell antigens and antibodies, basic principles and laboratory techniques of blood banking, including donor selection, blood grouping, compatibility testing and antibody identification. Prerequisites: HMTC 350 and HMTC 367.

HMTC 362 Mycology (Lecture/Laboratory) 3 q.h.

This course is a study of fungi which can cause infectious disease processes in man. Laboratory isolation and identification techniques will be emphasized. Prerequisite: General Biology.

HMTC 363 Parasitology (Lecture/Laboratory) 3 q.h.

This course is a study of medically significant parasites and their relationship to man. Laboratory identification techniques and diagnostic stages of these organisms will be emphasized. Prerequisite: General Biology.

HMTC 364 Clinical Microbiology I (Lecture/Laboratory) 6 q.h.

Clinical laboratory techniques used in the isolation and identification of pathogenic microorganisms will be presented. These techniques will be exercised through both computer assisted and hands on processing, culturing, recording, and interpreting of biochemical tests on clinical specimens. Areas of study include: Aerobic gram-positive cocci and bacilli, Haemophilus, Neisseria, Enterobacteriaceae and Campylobacter. Prerequisite: General Biology and preferably a Microbiology course.

HMTC 365 Clinical Microbiology II (Lecture/Laboratory) 6 q.h.

This course will apply and enforce knowledge and skills acquired in HMTC 364. Observation and study of less commonly isolated microorganisms such as nonfermenters, anaerobes and viruses will be presented as well as more advanced techniques. Prerequisite: HMTC 364.

HMTC 367 Immunology (Lecture) 4 q.h.

This is an introductory course dealing with the principles of acquired and natural immunity with reference to antigens, antibodies, immune response, complement, inflammation phagocytosis, susceptibility, and the concepts of cell mediated immunities and immunopathology. The student will be instructed in the theory, practice, and application of modern immunology/serological testing. Prerequisite: General Biology.

HMTC 499 Clinical Laboratory Sciences Comprehensive (Independent Study) 1 q.h.

This course is an intensive competency assessment of clinical laboratory sciences knowledge and skills. The major disciplines of chemistry, hematology, immunohematology, immunology and microbiology will be reviewed followed by a mock board examination.

HMTD 500 Interprofessional Healthcare Teams 1 q.h.

This course is an experiential learning opportunity for all students at Rosalind Franklin University of Medicine and Science to learn about a collaborative model of care. The students will interact in health care teams focusing on patient centered care emphasizing evidence based practice, quality improvement strategies and informatics. Prerequisite: Enrollment in the program.

HCLS 500 Professional Issues & Ethics (Lecture/Independent Study) 3 q.h.

This course is designed as an introduction to the profession. Students will become familiar with the history and traditions of the Clinical Laboratory Science profession, and will learn about the work of Clinical Laboratory Scientists as they function in various healthcare settings. Included in this course is an exploration into medical ethics and professional behavior.

HCLS 550 Practicum I 2 q.h.

This course is a clinical practicum including procedures in urine and body fluids analysis and immunology. Prerequisites: HMTC 346/367.

HCLS 551 Practicum II 3-4 q.h.

This course is a clinical practicum with emphasis on clinical chemistry and hematology. Prerequisite: HMTC 341/343.

HCLS 552 Practicum III 3-4 q.h.

This course is a clinical practicum with emphasis on blood banking procedures and microbiology.

Prerequisite: HMTC 354.

HCLS 553 Practicum IV 3 - 4 q.h.

This course is a clinical practicum with emphasis on Hematology. Prerequisite: HMTC 350/352.

HCLS 555 Practicum V 3 - 4 q.h.

This course is a clinical practicum with emphasis on Microbiology. Prerequisite: HMTC 364/365/362/363.

HCLS 565 Management Practicum 2 q.h.

Students will be assigned clinical laboratory management preceptorships under the supervision of administrators and department managers to work on a special project or problem. Prerequisite: HCLS 520/524.

HCLS 624 Advanced Molecular Practicum 4 q.h.

This course is a clinical practicum with emphasis on emphasis on molecular diagnostics procedures, interpretation and clinical correlation. Prerequisite: HCLS 623.

Affiliations

Adventist Lab Partners (Hinsdale and LaGrange, IL)

Advocate Clinical Laboratories (Rosemont, IL)*

Alexian Brother Hospital (Elk Grove Village, IL)

CARE BioPharma, LLC (Mundelein, IL)

Dynacare Laboratories (Milwaukee, WI)

Edward Hospital (Naperville, IL)*

Genesis Laboratories (Berwyn, IL)

Holy Cross Hospital (Chicago, IL)

Illinois Masonic (Chicago, IL)

Lake County Coroner's Office (Waukegan, IL)

Lake Forest Hospital (Lake Forest, IL)

Lifesource (Glenview, IL)

Loyola University Medical Center (Maywood, IL)

Midwestern Regional Medical Center (Zion, IL)

Mount Sinai Hospital (Chicago, IL)

North Chicago Veterans Affairs Medical Center
(North Chicago, IL)

Rosalind Franklin University

Immunology Department (North Chicago, IL)

Saint Anthony Hospital (Chicago, IL)*

Saints Mary and Elizabeth Hospital Center
(Chicago, IL)

Stroger Hospital of Cook County (Chicago, IL)

**contract pending*

Faculty

Nancy Jones, MD, Professor of the Practice
of Pathology

Lillian A. Mundt, MHS, CLS(NCA)SpH, MT(ASCP)SH,
Acting Department Chair, Associate Professor

Janet M. Vanik, MS, MT(ASCP), Associate Professor

Kristy L. Shanahan, MS, CLS(NCA), MT(ASCP),
Associate Professor

Catherine M. Hart, BS, MT(ASCP), Instructor

Pathologists' Assistant Department

College of Health Professions

Rosalind Franklin University of Medicine and Science

Professional Definition:

A pathologists' assistant is an intensively trained allied health professional who provides anatomic pathology services under the direction and supervision of a pathologist. Pathologists' assistants interact with pathologists in the same manner that physician assistants carry out their duties under the direction of physicians in surgical and medical practice. Pathologists' assistants contribute to the overall efficiency of the laboratory or pathology practice in a cost-effective manner by performing a variety of tasks, consisting primarily of gross examination of surgical pathology specimens and performance of autopsies.

Mission

The mission of the Pathologists' Assistant Department is to prepare and develop individuals for the professional practice of surgical and autopsy pathology in a continually evolving health care environment.

Vision

The Pathologists' Assistant Department will be recognized as the leader in providing graduate-level training in Pathologists' Assistant Studies through its outstanding graduates, curricular innovation, scholarly activity, community service, and the leadership it provides to the pathologists' assistant community worldwide.

Philosophy Statement

The Pathologists' Assistant Department assures a level of professional training, both academic and clinical, that prepares its graduates to serve as stewards of the profession and empowers them to set forth and provide exceptional care and leadership for the profession as well as educate future generations of health care providers in the art and science of practicing anatomic pathology.

The Pathologists' Assistant Department asserts that there is an inherent dignity in surgical specimens that represent a unique human being and that the utmost care and skill will be provided in transmitting the information contained within to pathologists, surgeons, and other members of the health care team. As such, the same professional care will be delivered to our patients in the autopsy service who have come to teach the living from their individual lives and deaths.

Programmatic Accreditation

Pathologists' Assistant Program Accreditation: National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) 8410 W. Bryn Mawr, Suite 670, Chicago, IL 60631-3415; 773-714-8880.

Degree Granted

Master of Science in Pathologists' Assistant

Admission Requirements

Admission to the program is competitive. Class members are selected on the basis of academic record, letters of recommendation, evidence of exposure to anatomic pathology and an interview.

Successful applicants will have graduated with a Bachelor's degree from an accredited college or university and usually have a cumulative GPA of at least 3.0 (on a 4.0 scale). Proficiency in written and verbal English is required. A Test of English as a Foreign Language (TOEFL) examination is required of all foreign applicants from countries in which English is not the native language and who have not attended an American college or university for two consecutive years. It is the applicant's responsibility to provide an official report of the TOEFL.

Prerequisites

A minimum of one course in each of the following classes:

- Biological Science (Human Anatomy and Physiology recommended)
- Microbiology
- General Chemistry
- Organic and/or Biochemistry
- College-level Mathematics (Statistics recommended)
- English Composition

Application Deadline

Applications are reviewed as they are received. Applicants are strongly encouraged to submit their completed application in the Summer/Fall of the year preceding their anticipated start of the program. Applications must be received by March 31st of the year for which you are applying.

Program Learning Objectives

Upon completion of the 22-month master's degree program, students should be able to conduct the practice of a Pathologists' Assistant in a professional manner by:

1. Engaging in an evidence-based medicine practice within the anatomic pathology laboratory.
2. Synthesizing clinical information from various sources to present comprehensive clinical pathologic correlations.
3. Effectively communicating complex anatomic pathology information in written, verbal and photographic forms.
4. Discerning normal structure and function of organs, tissues and cells from pathologic changes as demonstrated by selecting appropriate techniques for collecting, handling, submitting and processing specimens.
5. Recognizing the dignity of their patients and their responsibilities to the family and community at large.
6. Providing leadership in the laboratory through an understanding of management techniques and the operations and services provided in the anatomic pathology laboratory to facilitate efficiency and productivity.
7. Acting as stewards of the profession for students, colleagues and the public through education and research into the art and science of the practice of anatomic pathology.

Graduation Requirements

Successful completion of the didactic and clinical curriculum.

Curriculum

The Pathologists' Assistant Program is a rigorous, full-time program. A typical program of study, as outlined below, consist of 12 months of didactic coursework followed by 10 months of clinical rotations, through our nationally and internationally known clinical affiliates.

Pathologists' Assistant Department

Program of Study

Year 1

Summer Quarter

MCBA 501 Clinical Anatomy	10 q.h.
HAPA 520 Embryology	3 q.h.
HAPA 550 Professional Issues & Ethics	3 q.h.
HAPA 535 Medical Terminology	1 q.h.

Fall Quarter

MPAT 600A General Pathology	5 q.h.
PBBS 503A Structure & Function	4 q.h.
HAPA 505 Biomedical Photography & Imaging	3 q.h.
HAPA 560 Clinical Correlations I	3 q.h.
HMTD 500 Interprofessional Healthcare Teams	1 q.h.

Winter Quarter

MPAT 600B Systemic Pathology	5 q.h.
PBBS 503B Structure & Function	4 q.h.
HAPA 561 Clinical Correlations II	3 q.h.
HAPA 530 Histochemistry	3 q.h.
HAPA 510 Journal Review	2 q.h.

Spring Quarter

MPAT 600C Systemic Pathology	5 q.h.
HAPA 562 Clinical Correlations III	3 q.h.
HAPA 540 Autopsy Pathology	3 q.h.
PBBS 504 Neuroscience	3 q.h.
HMTD 551 Leadership in the Healthcare Environment	3 q.h.

Year 2

Summer Quarter

HAPA 630 Anatomic Pathology Clerkship I	12 q.h.
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Fall Quarter

HAPA 631 Anatomic Pathology Clerkship II	12 q.h.
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Winter Quarter

HAPA 632 Anatomic Pathology Clerkship III	12 q.h.
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Spring Quarter

HAPA 633 Anatomic Pathology Clerkship IV	12 q.h.
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Course Descriptions

First Year — Summer Quarter

MCBA 501 Clinical Anatomy 10 q.h. Lecture/Laboratory

Structure of the entire human body is studied through formal lectures and cadaver-based laboratories. Emphasis is placed on the clinical applications of anatomy.

HAPA 520 Human Embryology 3 q.h. Lecture

This course instructs the student in the basic principles of embryology as a basis for understanding normal human development and clinical pathologies that are developmental in origin.

HAPA 550 Professional Issues and Ethics 4 q.h. Lecture/Independent Study

This course is designed as an introduction to the profession. Students will become familiar with the history and traditions of the Pathologists' Assistant Profession, and will learn about the work of Pathologists' Assistants as they function in various health care settings. This is complemented by a focused review of contemporary medical ethics.

HAPA 535 Medical Terminology

An advanced medical terminology course for graduate pathologists' assistant students.

First Year — Fall Quarter

MPAT 600A General and Systemic Pathology 5 q.h. Lecture/Laboratory

The biologic bases and mechanisms of disease, including inflammation and repair, and cell injury by infectious, immunologic, vascular, genetic, physical, chemical, and neoplastic mechanisms followed by a beginning survey of disease with emphasis on clinical pathologic correlations. This is the medical school pathology course sequence and is three quarters in length.

PBBS 503A Structure and Function 4 q.h. Lecture/Laboratory

This is a two quarter course sequence, which will present the principles of medical histology and physiology through formal lecture and laboratory experiences. Normal organ systems will be examined at the ultra-structural, microscopic and whole-organ levels.

HAPA 560 Clinical Correlations I 3 q.h. Lecture

This is a full-year sequence designed to provide a bridge between the didactic coursework of the first-year curriculum and its application to the practice of Surgical and Autopsy Pathology by Pathologists' Assistants in the clinical setting.

HMTD 500 Interprofessional Healthcare Teams 1 q.h.

This course is an experiential learning opportunity for all students at Rosalind Franklin University of Medicine and Science to learn about a collaborative model of care. The students will interact in healthcare teams focusing on patient-centered care emphasizing evidence-based practice, quality improvement strategies and informatics.

First Year — Winter Quarter**MPAT 600B Systemic Pathology 5 q.h. Lecture/Laboratory**

Continuation of MPAT 600A.

PBBS 503B Structure and Function 4 q.h. Lecture/Laboratory

Continuation of PBBS 503A.

HAPA 561 Clinical Correlations II 3 q.h. Lecture

Continuation of HAPA 560.

HAPA 530 Histochemistry 4 q.h. Lecture/Laboratory

Basic histology technique and histochemistry will be covered with emphasis on special stains, immunohistochemistry, frozen sections and various special preparations such as muscle and nerve biopsies.

HAPA 510 Journal Review 2 q.h. Lecture/Discussion

Current topics pertinent to the profession will be discussed through weekly presentations of critiques of articles from peer-reviewed journals.

First Year — Spring Quarter**MPAT 600C Systemic Pathology 5 q.h. Lecture/Laboratory**

Continuation of MPAT 600B.

HAPA 562 Clinical Correlations III 3 q.h. Lecture

Continuation of HAPA 561.

HAPA 540 Autopsy Pathology 3 q.h.

This course provides an introduction to autopsy pathology and includes instruction in forensic, perinatal and pediatric pathology. There is a laboratory component to this class which includes practicing autopsy techniques on cadavers.

PBBS 504 Neuroscience 3 q.h.

An introduction to neuroanatomy and neuroscience for the pathologists' assistant student. Laboratory included.

HMTD 551 Leadership in the Healthcare Environment 3 q.h. Lecture

This interprofessional course is designed to introduce the student to the concept of leadership within the healthcare environment. Leadership skills learned as part of previous service activities, sports or academic study will be applied to the healthcare setting using case studies and small group discussion. The course begins with an overview of leadership styles, and then continues with more specific topics such as building teams, evaluating others, managing finances, managing risk, marketing of healthcare and healthcare policy.

HAPA 505 Biomedical Photography and Imaging 3 q.h. Lecture

This course is designed for pathologists' assistant students and will focus on familiarizing students with photographic equipment, fundamentals of gross specimen photography and digital image database management. Time will be spent on light microscopy and the use of photomicrography, as well as stereoscope photography. There will be an introduction to radiological procedures and the pathologists' assistant's use of radiographs. In addition, there will be tours of the electron microscopy lab and the live cell imaging lab.

Second Year — Summer Quarter

HAPA 630 Anatomic Pathology Clerkship I 12 q.h.

This is a ten-month practical course sequence which forms the curriculum for the second year. Students will rotate through various clinical sites and departments and perform the duties of a Pathologists' Assistant under the guidance of a preceptor. Emphasis will be placed on developing the students' skills of gross tissue description, dissection and frozen section preparation in the surgical pathology. In autopsy pathology, emphasis will be placed on autopsy technique including evisceration and block dissection.

Second Year — Fall Quarter

HAPA 631 Anatomic Pathology Clerkship II 12 q.h.

Continuation of HAPA 630.

Second Year — Winter Quarter

HAPA 632 Anatomic Pathology Clerkship III 12 q.h.

Continuation of HAPA 631.

Second Year — Spring Quarter

HAPA 633 Anatomic Pathology Clerkship IV 12 q.h.

Continuation of HAPA 632.

Clinical Affiliates for Pathologists'

Assistant Program:

Advocate Illinois Masonic Hospital (Chicago, IL)
 Boon Hospital (Columbia, MO)
 Boyce and Bynum (Columbia, MO)
 California Pacific Medical Center, (San Francisco, CA)
 Cardinal Glennon Children's Hospital (St. Louis, MO)
 Central Dupage Hospital (Winfield, IL)
 Centrex Clinical Laboratories, Inc. (Utica, NY)
 Columbia Hospital (Milwaukee, WI)
 Columbia St. Mary's, Milwaukee (Milwaukee, WI)
 Columbia St. Mary's, Ozaukee (Ozaukee, WI)
 David Geffen School of Medicine at UCLA
 (Los Angeles, CA)
 Evanston Northwestern Healthcare/
 Highland Park Hospital (Highland Park, IL)
 Jackson Memorial Hospital (Miami, FL)
 John H. Stroger, Jr., Hospital of Cook County (Chicago, IL)
 Lake Forest Hospital (Lake Forest, IL)
 Marshfield Clinic (Marshfield, WI)
 Medical College of Wisconsin (Milwaukee, WI)
 Mercy Hospital (Chicago, IL)
 Mercy Medical Center (Des Moines, IA)
 Methodist Hospital (Houston, TX)
 Michael Reese Hospital (Chicago, IL)
 Mineral Area Regional Medical Center (Farmington, MO)
 Mount Sinai Hospital (Chicago, IL)
 Resurrection Medical Center (Chicago, IL)
 Rush University Medical Center (Chicago, IL)
 St. Joseph's Health Center (St. Charles, MO)
 St. Joseph Hospital (Fort Wayne, IN)
 St. Mary's Duluth Clinic (Duluth, MN)
 Touchette Regional Hospital (Highland, IL)
 University of Illinois at Chicago (Chicago, IL)
 University of Iowa Hospital and Clinics (Iowa City, IA)
 University of Kansas Medical Center (Kansas City, KS)
 University of Minnesota (Minneapolis, MN)

Department Faculty:

John E. Vitale, MHS, PA (ASCP), Program Director,
 Assistant Professor and Acting Chair

Nathaniel Gray, MS, Instructor

Trina A. Sherlitz, PT, MS, PA (ASCP), Assistant Professor

Brandi Woodard, MS, Instructor

Daniel Bareither, PhD, Professor

John Becker, PhD, Associate Professor

Osvaldo L. Rubinstein, MD, Medical Director and
 Associate Professor of Pathology

Michael P. Sarras, Jr., PhD, Professor

Department of Interprofessional Healthcare Studies

The Institute of Medicine reports that an interprofessional healthcare model is vital to effective patient care. At Rosalind Franklin University of Medicine and Science, interprofessional practice begins with interprofessional education. Our students gain the foundation and skills necessary to remain competitive in the ever-evolving field of health care.

The Interprofessional Healthcare Department is committed to providing proactive and innovative experiences that enable professionals to become collaborative practitioners. Programs in Biomedical Sciences, Healthcare Management, Women's Health and Interprofessional Studies offer healthcare professionals the opportunity to study in an interprofessional environment to enhance their communication skills and professionalism necessary to participate as part of a multi-specialty healthcare team.

Degree/Certificate Programs

Master of Science in Biomedical Sciences

Master of Science or Certificate in Healthcare Management

Master of Science or Certificate in Women's Health

Doctor of Science or Doctor of Philosophy in Interprofessional Studies*

*pending approval of the Illinois Board of Higher Education

Please see individual program information for specifics.

Application Information

Applications are available through the College of Health Professions Admissions Office at 847-578-3209 or by email at www.rosalindfranklin.edu/Admissions/CHP.

Applications for the MS in Biomedical Sciences are due June 15th. The program begins in the fall quarter.

Applications for the other three programs are reviewed on a quarterly basis with **Fall Quarter enrollment strongly preferred**. Please be aware that entry into the program during Winter or Spring Quarters may increase the length of time required for program completion due to course sequencing and availability.

Completed applications, including transcripts and letters of recommendation, must be received by:

- August 1st for fall quarter
- October 26th for winter quarter
- February 8th for spring quarter

Transfer Credit

No transfer credit is awarded for the MS in Biomedical Sciences. For the other three programs a maximum of 9 quarter hours of graduate credit may be accepted from other accredited institutions.

Students requesting transfer credit must apply in writing to the chairman of their individual department. The Admissions committee for that department evaluates the appropriateness of the course for transfer. The coursework must be from an accredited college or university. Transfer credit may be allowed for individual courses in which the final grades are "B" or better.

No credit will be given for life experience. No credit can be earned through proficiency examinations.

Instructional Format

Coursework for the Biomedical Sciences Program is completed on campus and online. Coursework for the Healthcare Management programs and the Certificate in Women's Health program is completed online with no on-campus requirement. The Master of Science in Women's Health program is completed predominately online with a flexible on-campus component prior to graduation. The DSc/PhD programs have online and on-campus requirements. For online courses, students, faculty and staff maintain contact and interact via the Internet with a user-friendly learning management system (LMS). The LMS provides one location for students to easily access course syllabi and readings; receive and submit assignments and projects; complete exams and course evaluations; and interact with classmates and faculty through discussion postings and private mail messages. The online educational environment is password-protected and accessible only to students registered in courses. Outside of the course environment, students communicate with faculty and staff through University e-mail, telephone, fax and mail as needed.

Students can access their course materials anywhere in the world, at any time, as long as the computer they are using has access to the Internet and a web browser. Courses are delivered asynchronously, as contrasted with real-time, and provide students with greater flexibility and convenience than on-campus classes. The degree and certificate programs, however, are not self-paced; the curricula are designed so that students complete courses each quarter and their entire plans of study in a timely manner.

Minimum Computer System Requirements

The following Guidelines represent the minimum computer system that is required for this program.

Computer	Pentium III or higher
Hard Drive	At least 20 GB
RAM	At least 256 MB, but 512 is recommended
CD-ROM Drive	Yes
Modem	56K cable modem, DSL modem
Sound Card	Yes
Video Card	Yes
Speakers	Yes
Microphone	Optional
Mouse	Yes
Monitor	17 inch or larger
Printer	laser or ink jet

- For those who already own a computer system, this information should help determine if an upgrade of their current system is necessary.
- For those who need to purchase a new system, a state-of-the-art system that fits one's budget is recommended.

The projected lifespan of computer hardware is probably no longer than three years given the speed with which technology changes. Accordingly, a system that only meets the current minimum computer requirements may become outdated more quickly and may require hardware upgrades sooner than anticipated. Therefore, it is recommended that students purchase the best system they can afford with the hope that it will last throughout enrollment in the program. Please be aware that some of the lower-cost systems have limited upgrade capabilities. Also, note that the purchase price of a computer system can be added to financial aid requests.

Computer Software Requirements

The following guidelines list the necessary software for this program. Students may be required to upgrade or buy additional software during the course of the program due to the needs of particular courses and the rapid advances in technology.

Software	Software Developer	Purpose
Microsoft Office XP or 2003 Professional or Standard Edition	Microsoft Corporation http://www.microsoft.com http://www.microsoft.com/office/ (updates on Office programs)	Word (word processing software) PowerPoint (presentation software) Excel (spreadsheet software)
Norton Antivirus 2005 or 2006	Symantec Corporation http://www.symantec.com	Protects your system from computer viruses
Web Browser and email software		Necessary for accessing D2L. Make sure that all of the security updates available at the Microsoft site are installed.
Adobe Acrobat Reader V 7.0 or higher	Adobe Systems http://www.adobe.com (free download)	For reading PDF documents on and offline

Internet Access

An Internet service provider (ISP) that allows use of Microsoft Internet Explorer is required.

Contact Information

Chair

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Master of Science in Biomedical Sciences

Mission

The mission of the Master of Science in Biomedical Sciences program is to prepare students to continue their graduate education in a variety of healthcare professions including allopathic and podiatric medicine, dentistry, healthcare management, nutrition, physical therapy, and physician assistant studies, by providing a rigorous background in the biomedical sciences. The program also provides an opportunity for students to earn a certificate in one of the following fields: clinical research, healthcare management, nutrition, and women's health.

Curriculum

This challenging one-year course of study includes a number of graduate-level courses in the basic medical sciences and the choice of educational concentration tracks leading to certificates in a variety of healthcare fields. Students in this unique program take classes with students in other degree programs, including various graduate programs, allopathic and podiatric medicine, nutrition, physical therapy, and physician assistant studies.

All of the core courses and some of the track courses are offered on campus. Most of the certificate courses are offered online. Students, faculty, and staff maintain contact and interact via the Internet with a user-friendly learning management system (LMS). The LMS provides one location for students to easily access course syllabi and readings; receive and submit assignments and projects; complete exams and course evaluations; and interact with classmates and faculty through discussion postings and private mail messages. The online educational environment is password-protected and accessible only to students registered in courses.

All students in the Biomedical Sciences program are required to take the series of core courses. In addition, at the time of application, students are required to select one of the following four certificate tracks in which to take courses.

- Clinical Research
- Healthcare Management
- Nutrition*
- Women's Health*

An effort will be made to place students in the track of their choice. The Department of Interprofessional Healthcare Studies reserves the right to place students in a track as space allows. There are no prerequisites for the Healthcare Management or Clinical Research tracks.

Students who receive a 3.0 average in the certificate courses will receive a certificate in the area of concentration.

*Acceptance into these certificate or educational concentration tracks will be based on a student's qualification and interest, and upon available space in the program. A separate application process is required for students interested in these tracks. The learning format for these tracks includes both traditional and online coursework.

Admission Requirements

Students seeking admission to the Master's in Biomedical Sciences Program must have earned a baccalaureate degree or its equivalent from an accredited university or college. Applicants must have successfully completed (with a grade of "C" or better) at least one academic year in each of the following subjects, including laboratory sections: 1) biology or zoology; 2) inorganic chemistry; 3) organic chemistry; and 4) physics. The following coursework is highly recommended, but not required: biochemistry, human anatomy, molecular biology, physiology and statistics. Applicants are selected on the basis of previous academic work, adequate preparation in biological and physical sciences, GPA, and DAT, GRE or MCAT scores, recommendations from persons involved in the students' previous educational experience, and other factors as determined by the Admissions Committee and program faculty.

Requirements for Degree Completion

Successful completion of 52 credit hours of core and track coursework

Recommendation to the Board of Trustee by the faculty of the department via the Dean of the College of Health Professions, via the President of the University.

Requirements for Certificate

3.0 average in the four (4) track courses

Program of Study

*Core Courses

Quarter	Track	Course	Credits	Location
Fall	All students	*Molecular Cellular Biology	5	On campus
		*Medical Physiology	7	On campus
		*Topics in Physiology I	2	On campus
		*Intro to Healthcare	1	On campus and/or online
	Clinical Research Track	Critical Inquiry I	3	On campus
	HCM Track	Healthcare Law <i>or</i> Strategic Plan <i>or</i> Financial Management	3	Online
			3	Online
			Total 18	
Winter	All students	*Embryology	3	On campus
		*Biochemistry	2	On campus
		*Medical Physiology	7	On campus
		*Topics in Physiology II	2	On campus
	Clinical Research Track	Ethics in Research	3	Online

Quarter	Track	Course	Credits	Location
	HCM Track (1 or 2 courses)	HC Delivery or Marketing Health Care or Leadership & Management	3 3	Online Online
			Total 17 (Possibly 20 HCM)	
Spring	All students	*Neuroscience	7	On campus
		*Biochemistry	4	On campus
	Clinical Research Track	Measurement Critical Inquiry II	3 3	3 Online 3 Online
	HCM Track (1 or 2 courses)	Risk & Quality Management <i>or</i> Health Care Informatics <i>or</i> Management Ethics	3 3	Online On line
			Total 17/14 (Possibly 17 HCM)	
			TOTAL 52	

To earn a certificate in the Healthcare Management track, students must take four of the nine courses (3 quarter hours per course) offered in this program. To earn a certificate in the Clinical Research track, students must take all four courses (3 quarter hours per course) offered in this program.

Certificate Tracks

Clinical Research

The certificate program in Clinical Research is a four course sequence which includes content in clinical research methodology, statistical analysis, measurement and research ethics.

Healthcare Management

The Certificate Program in Healthcare Management is geared toward those seeking to advance their knowledge of healthcare management on select topics. Courses are selected by the student in consultation with the program director.

Nutrition

The certificate in Nutrition is a four-course sequence which includes content in human and clinical nutrition as well as carbohydrate, lipid, protein and energy metabolism.

Women's Health

The certificate program in Women's Health includes coursework aimed at increasing the student's understanding of the physiological basis of gender differences in normal and pathological conditions.

Course Descriptions

Required Core Courses

HIPS 502 Introduction to Interprofessional Healthcare

This course presents a general overview of health care in the United States with emphasis on the importance of collaboration among healthcare professionals. Students are given the opportunity to explore a variety of healthcare professions.

MBCH 502 Molecular Cellular Biology

In this course, the molecular and cellular processes common to all eukaryotic cells are studied and, where appropriate, comparisons to prokaryotic cells are made. The molecular and cellular processes of specific cell types and tissue types are also considered, and related to their morphological appearance.

MCBA 504 Embryology

In this course, the development of the human from conception to delivery is examined. Emphasis is placed on both normal and abnormal development. Supplementary laboratory exercises are provided.

MPHY 500A, B Medical Physiology

The course offers the basic principles of organ system physiology. Through lectures, demonstrations, conferences and laboratory work, students receive a quantitative and integrated concept of subcellular, cellular and organ system function.

MBCH 505A, B Medical Biochemistry

The fundamental chemical properties and biological reactions of the various compounds important to the normally functioning human organism are studied. As far as possible, mechanisms of life processes at the cellular and molecular level are explained in terms of these properties. Original literature is discussed in conference groups.

GPHY 522 A, B Topics in Physiology I and II

The purpose of these courses is to provide state of the art knowledge about the physiological basis to understanding numerous pathophysiological situations in humans.

MNSC 501 Medical Neuroscience

This course, designed for both medical and graduate students, provides a broad introduction to modern neuroscience, emphasizing cellular neuroscience,

including the neurochemistry of transmitters and receptor function; systems neuroscience, encompassing sensory, motor, affect, memory, language and other higher cognitive functions; neuroanatomy, taught using a combination of human brain atlases, realistic models, cadaver brains and interactive computer programs; and clinical neuroscience, focusing on the neural basis of several major neurological and psychiatric disorders.

Clinical Research Track

HPTH 622 Critical Inquiry (Research Methodology)

Critical Inquiry relates the elements of thought and logic of critical thinking to the principles and methods of scientific inquiry in clinical research.

HPTH 642 Critical Inquiry II

Includes descriptive and inferential biostatistics with relevance to clinical research. Conceptual understanding is stressed and students use a statistical program to analyze real clinical data.

HPPT 742 Measurement

Measurement presents classic and contemporary measurement theory, principles and practices, with applications to clinical research.

HIPS 660 Ethics in Research

Research Ethics presents the principles of research ethics in the clinical biomedical sciences. The ethical considerations of human subject research are stressed.

Healthcare Management Track

(Students, in consultation with program chair, select 4 of the following 9 courses)

HHCM 515 Healthcare Law

This course reviews the American legal system as the context within which to consider contemporary medico-legal issues. The course's intent is to provide a legal framework where healthcare management issues can be explored in collaboration with legal counsel. The curriculum addresses such topics as: professional liability, corporate entity risk considerations, and relevant legislative activities reshaping the healthcare industry and tort reform initiatives. Representative case law and studies will augment the legal theories presented in the course.

HHCM 550 Strategic Planning in Healthcare

This course is intended to introduce the student to strategic planning in healthcare organizations. The course content provides an overview of the strategic planning process including the elements required to successfully develop and implement short and long-term plans. In addition to application of the elements to a variety of healthcare situations, students will have the opportunity to apply this process to their own educational plan for personal academic success.

HHCM 511 Financial Management

The course is intended to prepare the student to effectively interact with financial management staff and participate in various aspects of financial control and planning. The curriculum provided an historical perspective of financial management in healthcare, identifying trends in the industry and the forces that influence the financing of healthcare organizations. Financial statements, the interpretation and analysis of financial reports, and topics such as cost-benefit analysis, budgeting, and capital management will also be addressed. Consideration will be given to the cost effectiveness and financial future of healthcare organizations.

HHCM 522 Healthcare Delivery

The historical evolution of health services provides a backdrop for the core focus of this course: the study of the healthcare system. The curriculum includes an analysis of the current changes in the healthcare environment and the problems affecting the delivery of healthcare in the United States. A study of the process of policy formation underscores the complexity and difficulty of government action. Economic and political approaches to health policy analysis will be discussed. The concepts of cost, access, and quality will be threaded throughout the course.

HHCM 508 Marketing Health Care

This course will examine critical aspects of marketing management including price, product, promotion, and distribution of healthcare services as well as internal and external forces that impact marketing. The student will be introduced to strategies that provide competitive opportunities to create value for the healthcare organization and improve customer satisfaction.

HHCM 526 Leadership and Management

This course is designed to assist the student in developing problem-solving skills, personal and interpersonal effectiveness, and appreciation for others' leadership styles to forge collaborations (i.e., strategic partnering) which are essential to accomplishing the mission and goals of healthcare organizations. Theories of leadership, motivation, power, communication, and conflict management will also be examined and applied. The student will be challenged to develop a profile of oneself as a leader and create an action plan for leadership development. A personal inventory will set the foundation for planned personal and role change.

HHCM 516 Risk and Quality Management in Health Care

This course will explore the risk and quality management processes in depth. The student will be introduced to risk management strategies that reduce the likelihood of harm to people and financial loss in addition to quality management activities to assure that standards are met and to optimize the quality of healthcare. As these functions are interwoven throughout the organization (e.g., information management, medical staff issues, insurance, claims administration, etc.), the concept of risk and quality management as "everyone's responsibility" will be emphasized.

HHCM 507 Healthcare Informatics

This course will provide an overview of the management of data and information resources critical to effective and efficient healthcare delivery. Course concepts will include: insuring accurate and complete data; coding for reimbursement; ensuring quality of data; analyzing data for decision support, research, and public policy; and the protection of patient privacy and security. Interactions with healthcare entities such as patient care organizations, payers, research and policy agencies, etc. will also be discussed.

HHCM 517 Management Ethics

The curriculum will provide an overview of bioethics including a broad range of potential concerns in which the healthcare manager may become involved. This encompasses a familiarization with bioethics nomenclature, understanding the ethical decision-making process, and developing an appreciation for the ethical challenges of administrators and clinical practitioners. Legal and risk management issues surrounding ethical dilemmas in healthcare organizations will be examined in addition to the roles of institutional ethics committees and consultants.

Nutrition Track**HNUT 550 Carbohydrate and Lipid Metabolism**

An in-depth study of carbohydrate and lipid metabolism their integration in the fed, fasted, and refed states and to major disease processes.

HNUT 551 Protein and Energy Metabolism

A continuation of the topics presented in NUTR 550 Carbohydrate and Lipid Metabolism, starting with protein metabolism and ending with an overview of energy metabolism. Topics to be addressed include protein structure, function, and quality; general properties, kinetics, and mechanisms of action of enzymes; integration of metabolism and the provision of tissue fuels during the fed, fasted, starved, and hypermetabolic states; and the regulation of food intake, body weight/ composition and energy metabolism. The latter covers the key components of energy expenditure and methods of measurement.

HNUT 555 Nutrition Through the Life Cycle 3 q.h.

An in-depth review of the theory and application of the nutritional requirements and concerns of people during the different states of the life cycle.

HNUT 580 Evaluating Research 4 q.h.

An introductory graduate course covering fundamentals of the research process with the desired end result being the ability to critically analyze and interpret published research.

Women's Health Track**HWHS 501, 502, 503 Physiology and Pathophysiology for Women I, II, and III**

The Physiology & Pathophysiology series of courses covers the normal physiology and pathophysiology of women with emphasis on issues such as mental health, reproductive health, musculo-skeletal health, and normal aging. Cellular and neuronal physiology, muscular skeletal physiology, and cardiovascular physiology will be the focus of the first of these three courses. General pathophysiological mechanisms will be compared to those of special concern to women's health and well-being including breast/ovarian/cervical/ uterine cancer, neurological disease, musculo-skeletal disease, and cardiovascular disease. Students will also learn to critique and evaluate current treatments for pathophysiological conditions and integrate them with basic physiological principles to develop appropriate treatment plans.

Other courses are selected, through consultation with the Women's Health faculty, from courses offered in the Master of Science program. Please see the course offerings at <http://www.rosalindfranklin.edu/srhs/womenshealth/>.

Course descriptions are subject to change without prior notice.

Minimum Computer System Requirements

The following Guidelines represent the minimum computer system that is required for this program.

	Minimum System Configuration	Recommended Laptop Configuration	Recommended Desktop Configuration
Operating System	Windows XP	Windows XP	Windows XP
Computer	Pentium III or higher	Pentium IV	Pentium IV
RAM	256 MB minimum 512 MB recommended	512 MB	512 MB
Hard drive	20 GB	40 GB	80 GB
CD-ROM drive	Yes	CD Writer/DVD Player Combo	CD Writer & DVD Player
Modem	56K, cable, or DSL	56K, cable, or DSL	56K, cable, or DSL
Sound card	Yes	Yes	Yes
Speakers	Yes	Yes, built-in	Yes
Mouse	Yes	Yes, or touchpad	Yes
Monitor	14" or larger	Yes	14" or larger
Printer	Ink jet or laser; Color or black & white	Ink jet or laser; Color or black & white	Ink jet or laser; Color or black & white

- For those who already own a computer system, this information should help determine if an upgrade of their current system is necessary.
- For those who need to purchase a new system, a state-of-the-art system that fits one's budget is recommended.

The projected lifespan of computer hardware is probably no longer than three years given the speed with which technology changes. Accordingly, a system that only meets the current minimum computer requirements may become outdated more quickly and may require hardware upgrades sooner than anticipated. Therefore, it is recommended that students purchase the best system they can afford with the hope that it will last throughout enrollment in the program. Please be aware that some of the lower-cost systems have limited upgrade capabilities. Also, note that the purchase price of a computer system can be added to financial aid requests.

Computer Software Requirements

Required Software	Software Developer	Purpose
Microsoft Office XP or 2003	Microsoft Corporation	Word (word processing software) PowerPoint (presentation software) Excel (spreadsheet and statistical analysis software)
Norton Antivirus 2005 or 2006	Symantec Corporation	Protects against computer viruses, worms, etc.
PKZIP for Windows	PKWare, Inc.	File compression/extraction and archiving (storage) software. Allows you to send multiple documents as a single file attachment. Decreases size of most files for faster e-mail transmission.
Adobe Acrobat Reader 7.0	Adobe Systems	For reading PDF documents on and offline This is a free download.
Web Browser and e-mail software		Browser: Access the Internet, course management software, and University e-mail. E-mail software: Access personal e-mail account.

Internet Access

	Recommended
Web browser	Internet Explorer Latest version AOL 7.0 and 8.0 Netscape 6.2, 7.0 and 7.1 Mozilla 1.5
Internet service provider	Yes
Internet access	Dial-up, cable or DSL modem
E-mail address	Once enrolled in a degree program, students will be provided with a University e-mail address that must be used for all school-related communication outside of the course environment.

Application Information

Applications are available through the Office of Graduate Admissions at the following page: site: www.rosalindfranklin.edu/admissions/chp.

Applications are due June 15th. The program begins in the fall quarter.

Financial Aid Information

Individuals who wish to apply for financial aid should ensure that their graduate program applications are submitted well before the enrollment deadline to allow adequate time for document processing.

Applications for federal student aid are available online at: <http://www.fafsa.ed.gov> and are available every February for the following academic year. The code for Rosalind Franklin University of Medicine and Science is 001659.

Contact Information

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Healthcare Management Programs

Master of Science or Certificate in Healthcare Management

Description of the Program

The *Master of Science Program in Healthcare Management* is an online educational program that can augment students' clinical education and healthcare professionals' experiences with business acumen to better plan for and respond to changes in the healthcare industry. The curriculum, which includes courses such as evidence-based management, finance, law, marketing, and information management, is designed to equip individuals with the knowledge and skills to integrate best business practice with clinical practice to meet the challenges of a complex healthcare delivery system. The *Certificate Program in Healthcare Management* is geared toward those seeking to advance their knowledge of healthcare management on select topics.

Goals

The purpose of this program is to prepare students to become future leaders in the healthcare industry. To achieve this goal, the students' educational experience will:

- Enhance multidisciplinary management skills;
- Foster the desire and skill to engage in the clinical inquiry process;
- Assist students in developing a depth of knowledge, skill, and investigative attitude toward research, business, and leadership expertise;
- Enhance the ability to engage in self-directed, life-long learning;
- Prepare the graduate for leadership roles in the clinical setting.

Unique Features of the Program

The program offers students an individualized plan of studies that reflects their specific educational needs and culminates in a graduate degree or certificate.

- Distance education format accommodates students' schedules.
- No real-time or on-campus requirements; virtual classroom discussions occur asynchronously – that is, students participate in ongoing interactions with faculty and classmates anytime, any place.
- Student orientation and training to the program and online learning.
- Innovative teaching strategies that assist students with their development as leaders in healthcare.
- Committed faculty who are experts in their field and are experienced in distance teaching/learning methodologies.
- Student-to-faculty ratio optimized for effective online learning.
- Ongoing, individualized guidance and counseling to assist the student in meeting his/her educational goals.
- Final portfolio to synthesize and apply the educational experience.
- Graduate degree can be completed in two years at part-time enrollment, four quarters at full-time enrollment.

Admission Requirements

The following are required for admission into the Master of Science and Certificate in Healthcare Management:

- Bachelor's degree from an accredited university or college in any discipline
- Cumulative minimum grade point average of 2.75 on a 4.0 scale during the last two years of college
- Work experience in a related health or science field (recommended)
- Submission of a completed application, non-refundable application fee, and two letters of recommendation from persons involved in previous or current educational and/or work experience, whichever is more extensive and recent
- Official transcripts submitted from each college, university, and community college previously attended. International transcripts must be evaluated by an approved U.S. evaluation agency (e.g., World Education Service, Inc. P.O. Box 5087, Bowling Green Station, New York, NY 10274-5087).
- Proficiency in written and verbal English. A Test of English as a Foreign Language (TOEFL) examination is required of all foreign applicants from countries in which English is not the native language, and who have not attended an American college or university for two consecutive years. It is the applicant's responsibility to provide an official report of the TOEFL exam.
- Students currently enrolled in other programs at Rosalind Franklin University of Medicine and Science should contact the admissions department for an alternative application form and requirements.

Requirements for Degree Completion

- Successful completion of 42 quarter hours:*
 - 33 quarter hours of core courses
 - 6 quarter hours of electives
 - 3 quarter hours of final project or comprehensive examination

*A quarter hour is equivalent to 2/3 of a semester hour.

- Cumulative grade point average of 3.0 (B) or better
- Successful completion of all course requirements within 5 years from the date of enrollment
- Continuous full- or part-time enrollment

Up to 9 quarter hours of graduate-level coursework may be transferred into the program at the discretion of the department faculty.

Requirements for Certificate Completion

- Development of a four-course individualized plan of study in conjunction with the program advisor
- Successful completion of 12 quarter hours
- Courses completed with a grade of B or better are transferable into the degree program
- Successful completion of all certificate requirements within 2 years from the date of enrollment
- Continuous enrollment

Courses

Core Courses

- HPTH 501 Practical Statistics (3 q.h.)**
- HHCM 507 Healthcare Informatics (3 q.h.)**
- HHCM 508 Marketing Healthcare (3 q.h.)**
- HHCM 515 Healthcare Law (3 q.h.)**
- HHCM 516 Risk and Quality Management in Healthcare (3 q.h.)**
- HHCM 517 Management Ethics (3 q.h.)**
- HHCM 521 Evidence Based Management (3 q.h.)**
- HHCM 522 Healthcare Delivery Systems (3 q.h.)**
- HHCM 526 Leadership and Management (3 q.h.)**
- HHCM 550 Strategic Planning in Healthcare (3 q.h.)**
- HHCM 551 Financial Management in Healthcare (3 q.h.)**

Elective Courses

- HNUT 505 Professional Communication**
- HHCM 518 Insurance Dimensions (3 q.h.)**
- HHCM 552 Independent Study (1-6 q.h.)**
- HNUT 504 Critical Skills for Online Learning (3 q.h.)**
- HNUT 525 Evaluation (3 q.h.)**
- HNUT 541 Promoting Healthy Lifestyles (3 q.h.)**
- HNUT 573 Addressing Diversity in Clinical Practice (3 q.h.)**

Capstone Experience

- HHCM 590 Final Project/Portfolio**

Course Descriptions

Required Courses:

HPTH 501 Practical Statistics

This is an introductory graduate course covering basic principles of biometry and applied statistical methods utilizing current computer software. Prerequisite: Microsoft Office Excel XP Module

HHCM 507 Healthcare Informatics

This course will provide an overview of the management of data and information resources critical to effective and efficient healthcare delivery. Course concepts will include: insuring accurate and complete data; coding for reimbursement; ensuring quality of data; analyzing data for decision support, research, and public policy; and the protection of patient privacy and security. Interactions with healthcare entities such as patient care organizations, payers, research and policy agencies, etc. will also be discussed.

HHCM 508 Marketing Healthcare

This course will examine critical aspects of marketing management including price, product, promotion, and distribution of healthcare services as well as internal and external forces that impact marketing. The student will be introduced to strategies that provide competitive opportunities to create value for the healthcare organization and improve customer satisfaction.

HHCM 515 Healthcare Law

This course reviews the American legal system as the context within which to consider contemporary medico-legal issues. The course's intent is to provide a legal framework where healthcare management issues can be explored in collaboration with legal counsel. The curriculum addresses such topics as: professional liability, corporate entity risk considerations, and relevant legislative activities reshaping the healthcare industry and tort reform initiatives. Representative case law and studies will augment the legal theories presented in the course.

HHCM 516 Risk and Quality Management in Healthcare

This course will explore the risk and quality management processes in depth. The student will be introduced to risk management strategies that reduce

the likelihood of harm to people and financial loss in addition to quality management activities to assure that standards are met and to optimize the quality of health-care. As these functions are interwoven throughout the organization (e.g., information management, medical staff issues, insurance, claims administration, etc.), the concept of risk and quality management as "everyone's responsibility" will be emphasized.

HHCM 517 Management Ethics

The curriculum will provide an overview of bioethics including a broad range of potential concerns in which the healthcare manager may become involved. This encompasses a familiarization with bioethics nomenclature, understanding the ethical decision-making process, and developing an appreciation for the ethical challenges of administrators and clinical practitioners. Legal and risk management issues surrounding ethical dilemmas in healthcare organizations will be examined in addition to the roles of institutional ethics committees and consultants.

HHCM 521 Evidence Based Management

This course provides an introduction to the utilization of best evidence in managing healthcare issues. The curriculum is intended to prepare the student to identify management problems and develop a related path of focused inquiry, evaluate reliable databases and searching strategies to find evidence, and base management decisions on the best evidence available.

HHCM 522 Healthcare Delivery Systems

The historical evolution of health services provides a backdrop for the core focus of this course: the study of the healthcare system. The curriculum includes an analysis of the current changes in the healthcare environment and the problems affecting the delivery of healthcare in the United States. A study of the process of policy formation underscores the complexity and difficulty of government action. Economic and political approaches to health policy analysis will be discussed. The concepts of cost, access, and quality will be threaded throughout the course.

HHCM 526 Leadership and Management

This course is designed to assist the student in developing problem-solving skills, personal and interpersonal effectiveness, and appreciation for others' leadership styles to forge collaborations (i.e., strategic partnering) which are essential to accomplishing the mission and goals of healthcare organizations. Theories of leadership, motivation, power, communication, and conflict management will also be examined and applied. The student will be challenged to develop a profile of oneself as a leader and create an action plan for leadership development. A personal inventory will set the foundation for planned personal and role change.

HHCM 550 Strategic Planning in Healthcare

This course is intended to introduce the student to strategic planning in healthcare organizations. The course content provides an overview of the strategic planning process including the elements required to successfully develop and implement short and long-term plans. In addition to application of the elements to a variety of healthcare situations, students will have the opportunity to apply this process to their own educational plan for personal academic success.

HHCM 551 Financial Management in Healthcare

The course is intended to prepare the student to effectively interact with financial management staff and participate in various aspects of financial control and planning. The curriculum provided an historical perspective of financial management in healthcare, identifying trends in the industry and the forces that influence the financing of healthcare organizations. Financial statements, the interpretation and analysis of financial reports, and topics such as cost-benefit analysis, budgeting, and capital management will also be addressed. Consideration will be given to the cost effectiveness and financial future of healthcare organizations.

Elective Courses:**HHCM 518 Insurance Dimensions**

This course is intended to provide the student with an understanding of the principles of insurance related to healthcare organizations. The curriculum focuses on insurance in the healthcare setting, risk financing considerations, and insurance policy analysis. The impact of recent national and world events, changing economics, and policy as they relate to the healthcare insurance industry will also be explored.

HHCM 552 Independent Study

The independent study is an individualized learning experience designed to meet specific educational needs of the student.

HNUT 504 Critical Skills for Online Learning

This course introduces the student to Internet browsing software. Skills emphasized include "surfing" the Internet, evaluating World Wide Web sites, basic Web site design, and development, completing effective Internet and online literature database searches, and reviewing and evaluating nutrition and health-related Web sites. Prerequisite: Microsoft Office XP Word module.

HNUT 505 Professional Communication 3 q.h.

This course provides you with the skills and techniques to improve the effectiveness for your professional presentations in different health professions settings with an emphasis on different methods of organizing a speech, speaking techniques, development of effective PowerPoint and poster presentations, and basic principles of scientific writing. Presentation content will be drawn from coursework completed in HNUT 532 Instructional Design.

HNUT 525 Evaluation

This course is designed to enable the student to effectively develop and implement the appropriate skills and tools to evaluate the performance of the employee in the healthcare setting.

HNUT 541 Promoting Healthy Lifestyles 3 q.h.

This course explores health promotion for the individual and the community. This will be accomplished through implementing basic community health concepts of epidemiology, levels of prevention, and risk assessment within the context of health promotion activities. Students will analyze their own personal health promotion needs and selected needs within a chosen community. Based on the standards outlined in Healthy People 2010, students will develop health promotion activities for community health problems of their choice based on an assessment of need. Students will develop and track an individual health promotion plan for themselves

HNUT 573 Addressing Diversity in Clinical Practice 3 q.h.

This course provides the student with an overview of the religious, dietary and healthcare habits and beliefs of a variety of ethnic groups. Understanding, serving, and meeting the counseling and healthcare needs of a cross-cultural population of patients will be emphasized.

Capstone Option**HHCM 590 Final Portfolio**

In this capstone experience, the student analyzes the impact of organizational culture, strategic planning, and strategic management to determine how a healthcare organization operates to meet its strategic goals. In addition, the student selects a problem in a given clinical area/organization and uses research methodologies and other coursework to recommend a solution for the problem through completion of an integrated paper that reflects content learned throughout the program. Upon approval of the final paper, the student will make a formal presentation of the paper to selected faculty.

Part-time Schedule — Completion in 2 Years**Year 1****Fall Quarter**

HHCM 550 Strategic Planning in Healthcare
Elective option**

Winter Quarter

HPTH 501 Practical Statistics
HHCM 522 Healthcare Delivery Systems

Spring Quarter

HHCM 516 Risk and Quality Management
HHCM 517 Management Ethics

Summer Quarter

HHCM 521 Evidence-based Management
Elective option**

Year 2**Fall Quarter**

HHCM 515 Healthcare Law
HHCM 551 Financial Management in Healthcare

Winter Quarter

HHCM 508 Marketing Healthcare
HHCM 526 Leadership and Management

Spring Quarter

HHCM 507 Healthcare Informatics
Elective option**

Summer Quarter

Elective(s)
HHCM 590 Final Portfolio

*The final portfolio can be completed during any quarter after all courses have been completed.

** Two electives are required for degree completion.

Full-time Schedule — Completion in 4 Quarters

Fall Quarter

HHCM 515 Healthcare Law

HHCM 550 Strategic Planning in Healthcare

HHCM 551 Financial Management in Healthcare
Elective

Winter Quarter

HPTH 501 Practical Statistics

HHCM 508 Marketing Healthcare

HHCM 522 Healthcare Delivery Systems

HHCM 526 Leadership and Management

Spring Quarter

HHCM 516 Risk and Quality Management in Healthcare

HHCM 507 Healthcare Informatics

HHCM 517 Management Ethics

Summer Quarter

HHCM 521 Evidence-based Management

HHCM 590 Final Portfolio

Program Completion

Completion in 4 quarters

- Fall Quarter enrollment required
- Full-time schedule required

Enrollment Deadline

Completed applications including transcripts and letters of recommendation must be received by **August 1st**.

Program Completion

Completion in 2 years

- Applications reviewed on a quarterly basis with Fall Quarter enrollment strongly preferred
- Part-time schedule

Enrollment Deadline

Completed applications including transcripts and letters of recommendation must be received by:

- August 1st for Fall Quarter
- November 1st for Winter Quarter
- February 15th for Spring Quarter

Applications are not accepted for Summer Quarter admission.

Contact Information

Program Director

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Women's Health Programs

Master of Science or Certificate in Women's Health

Description of the Program

The Master of Science and Certificate programs in Women's Health are online learning programs designed for self-motivated experienced nurses, nutritionists, allopathic and podiatric physicians, occupational and physical therapists, physician assistants and psychologists wishing to expand their knowledge and become a leader in women's health in an interprofessional environment. Course work for the certificate is completed online with no on-campus requirement. The Master of Science program has a flexible on-campus component prior to graduation. The programs are open to healthcare profession students in good standing in the clinical phase of their education.

Goals

The overall objective of the Master of Science in Women's Health is to prepare healthcare professionals to assume collaborative leadership roles in Women's health care.

Following the completion of Master of Science Women's Health program the graduate should be able to:

- Demonstrate collaborative behaviors in an interprofessional healthcare team.
- Integrate normal physiology and pathophysiology development as related to special concerns regarding women's health to improve patient care.
- Propose an integrated plan of care for women patients taking into account information from the various healthcare providers.
- Value evidence based practice and collaborative research within the healthcare professions.
- Provide leadership for the development of an interprofessional women's healthcare team.

The overall goal of the Certificate in Women's Health is to prepare healthcare professionals to practice in a collaborative environment.

Following the completion of the Certificate program in Women's Health the graduate should be able to:

- Practice collaborative care in an interprofessional healthcare team.
- Integrate normal physiology and pathophysiology development as related to special concerns regarding women's health to improve patient care.

Unique Features of the Program

The program offers students an individualized plan of studies that reflects their specific educational needs and culminates in a graduate degree or certificate.

- Distance education format accommodates students' schedules.
- Virtual classroom discussions occur asynchronously – that is, students participate in ongoing interactions with faculty and classmates anytime, any place.
- No on-campus requirements for the certificate, flexible on-campus requirement for the Master of Science program.
- Student orientation and training for the program and online learning.
- Innovative teaching strategies that assist students with their development as leaders in women's healthcare.
- Committed faculty who are experts in their field and are experienced in distance teaching/learning methodologies.
- Student-to-faculty ratio optimized for effective online learning.
- Ongoing, individualized guidance and counseling to assist the student in meeting his/her educational goals.
- Choice of final project to synthesize and apply the educational experience.
- Graduate degree can be completed in two years.

Admission Requirements

- Baccalaureate degree from an accredited college or university.
- Certification, registration or licensure as a medical physician, nurse, nutritionist, occupational therapist, physical therapist, physician assistant, podiatric physician, or psychologist or
- Students in good standing in the clinical phase of a medical, nursing, nutrition occupational or physical therapy, physician assistant, podiatry, or clinical psychology program.
- One year of clinical practice – recommended

Requirements for Degree Completion

- Successful completion of 24 credit hours of required coursework and 12 credit hours of elective coursework.
- Successful completion of a Masters Project (6 quarter hours).
- Minimum cumulative GPA of 3.0
- Recommendation to the Board of Trustees by the faculty of the department via the Dean of the College of Health Professions, via the President of the University.

Requirements for Certificate Completion

The program for the Certificate in Women's Health is composed of four required courses (12 quarter hours).

Courses

Coursework in the Master of Science and Certificate in Women's Health programs concentrate on an interprofessional approach to the care of women with emphasis on physiology, pathology, pharmacology, nutrition, exercise, and relationships that are relevant to women.

Required Courses

HWHS 500 Interprofessional Approach to Women's Health (3 q.h.)*

HWHS 501 Physiology and Pathophysiology for Women I (3 q.h.)*

HWHS 502 Physiology and Pathophysiology for Women II (3 q.h.)*

HWHS 503 Physiology and Pathophysiology for Women III (3 q.h.)*

HIPS 550 Evidence Based Practice (3 q.h.)

HWHS 551 Medical Pharmacology (3 q.h.)

HNUT 571 Sports Nutrition (3 q.h.)

HHCM 526 Leadership and Management (3 q.h.)

HWHS 620 Master Project (6 q.h.)

One of the following courses:

HWHS 553 Psychopathology and Mental Health (3 q.h.)

HWHS 602 Women's Relationship Issues (3 q.h.)

HWHS 604 Women coping with Cancer (3 q.h.)

*required for certificate and MS degree

Elective Courses

HWHS 601 Sexuality (3 q.h.)

HWHS 603 Rheumatological Diseases in Women (3 q.h.)

HWHS 605 Neurological Diseases in Women (3 q.h.)

HWHS 606 Medical Ethics (3 q.h.)

HTPT 501 Practical Statistics (3 q.h.)

Healthcare Management Courses

Course Descriptions

Required Courses

HWHS 500 Interprofessional Approach to Women's Health (3 q.h.)*

This course will provide an overview of the degree program in women's health. It will emphasize the Rosalind Franklin University of Medicine and Science Model of Collaborative Care through a focus on an inter-professional approach to health care delivery. Prerequisite: Enrollment in the certificate or Master of Science program.

HWHS 501, 502 and 503 Physiology and Pathophysiology I, II and III

The Physiology and Pathophysiology series of three courses covers normal physiology and pathophysiology of cellular, muscular, nerve, cardiovascular, respiratory, gastrointestinal, renal, endocrine, reproductive and immune systems. This series of courses emphasizes issues of particular importance to women in different life stages, such as reproductive, cardiovascular and musculoskeletal health. General pathophysiological mechanisms will be compared to those of special concern to women's health and well-being, including cancer, neurological disease, musculoskeletal disease and cardiovascular disease. Students will learn to critique and evaluate current treatments for pathophysiological conditions and integrate these principles with basic physiological principles. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

HWHS 551 Medical Pharmacology (3 q.h.)

This course will focus on the pharmacological treatment of diseases that are common in women. Special emphasis will be placed on blood pressure control, weight management, cardiovascular disease, estrogen use, pulmonary hypertension, arthritis, and depression. This course will also review Complementary and Alternative Approaches to Medicine. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

HNUT 571 Sports Nutrition 3 q.h.

Focuses on the acute and long term effects of exercise on the function of major organ systems. Emphasis is placed on the cardiorespiratory, musculoskeletal, and nervous systems.

HHCM 526 Leadership and Management (3 q.h.)

This course is designed to assist the student in developing problem-solving skills, personal and interpersonal effectiveness, and appreciation for others' leadership styles to forge collaborations (i.e., strategic partnering), which are essential to accomplishing the mission and goals of healthcare organizations. Theories of leadership, motivation, power, communication, and conflict management will also be examined and applied. The student will be challenged to develop a profile of him or herself as a leader and create an action plan for leadership development. A personal inventory will set the foundation for planned personal and role change. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

HIPS 550 Evidence Based Practice (3 q.h.)

This course is a broad-based introduction to the utilization of best evidence in the practice of Women's Health. It begins with the development of clinical patient care questions and moves to successful search strategies, ending with the application of the evidence to improving quality of care. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

One of the following three:

HWHS 553 Psychopathology and Mental Health (3 q.h.)

This course will cover the importance of mental health for women, as well as the forms of psychopathology that may present in women, including depression, anxiety disorders, eating disorders, and certain personality disorders. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

HWHS 602 Women's Relationship Issues (3 q.h.)

This integrative course will review the nature and function of women's relationships with particular focus on how these relationships impact women's health. Topics include care-giving roles, domestic violence, and marital functioning. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

HWHS 604 Women Coping with Cancer (3 q.h.)

This course will focus on the impact of cancer on women's lives including psychosocial issues and treatment. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

Elective Courses**HWHS 601 Sexuality (3 q.h.)**

This course will cover issues of sexual health and disease for women across the lifespan. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

HWHS 603 Rheumatological Diseases in Women (3 q.h.)

This course will focus on the impact of rheumatological disease on women's lives including chronic fatigue syndrome, fibromyalgia, systemic lupus erythematosus, erosive osteoarthritis, and rheumatoid arthritis. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

HWHS 605 Neurological Diseases in Women (3 q.h.)

This course will focus on the impact of neurological diseases on women's lives including chronic migraines, stroke and dementia. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

HWHS 606 Medical Ethics (3 q.h.)

This course will cover ethical and legal issues, particularly issues of privacy and protected health information, that may arise in a variety of settings (i.e., clinical, research, and academic) and that are of special concern to women (e.g. assisted fertility, end of life). Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

Healthcare Management Elective (3 q.h.)

Students may select an appropriate course from the Healthcare Management course listings. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

HTPT 501 Practical Statistics (3 q.h.)

This course will cover the basic principles of biometry and applied statistical methods using current computer software. Prerequisite: Satisfactory completion of all previous courses in women's health program or approval of faculty.

Masters Project**HWHS 660 Masters Project (6 q.h.)**

This is a major project including development of a problem statement, objectives for the experience and literature review as well as producing a significant outcome document i.e., textbook chapter(s), course materials, or research paper. Prerequisite: Satisfactory completion of all previous courses in women's health program and approval of faculty advisor.

Course descriptions are subject to change without prior notice.

Contact Information**Chair, Program Director**

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Doctor of Science/Doctor of Philosophy in Interprofessional Studies*

*pending approval of the Illinois Board of Higher Education

Description of Program

This program is an opportunity for practitioners in various disciplines such as physical therapy, occupational therapy, nutrition, physician assistants, and clinical laboratory sciences to advance their knowledge and skills in collaborative interprofessional practice. Students study part-time on campus and online in an interprofessional curriculum focusing on creating innovative methods to bridge the healthcare professions. The program emphasizes the development of scholarly evidence-based skills to improve healthcare.

DSc The capstone experience is a clinical research project of local or national significance.

PhD The PhD program is a continuation of the DSc which focuses on theoretical research and culminates in a fundable, publishable quality research project.

Goals

Following the completion of the Doctor of Science program graduates will:

- Practice in an interprofessional manner to model collaborative care
- Use evidence as part of daily clinical decision making
- Engage in scholarly activity
- Provide leadership in the development of an interprofessional healthcare practice environment
- Set and achieve interprofessional goals in practice, education, scholarship and service

Following the completion of the PhD program graduates will:

- Practice in an interprofessional manner to model collaborative care
- Use evidence as part of daily clinical decision making
- Engage in scholarly activity
- Provide leadership in the development of an interprofessional healthcare practice environment
- Set and achieve interprofessional goals in practice, education, scholarship and service
- Value collaborative research within the healthcare disciplines
- Engage in collaborative research
- Seek funding for their collaborative research agenda

Types of Students

Students for the Interprofessional Studies program will be licensed, registered or certified practitioners in physical therapy, occupational therapy, physician assistant studies, nursing, or other healthcare professions.

Admission Requirements

The following are required for admission into the Doctor of Science and the Doctor of Philosophy programs:

- Masters or doctorate degree from an accredited college or university
- 3.0 minimum cumulative grade point average in graduate work
- Licensed, registered, certified or otherwise credentialed healthcare professional in the United States
- Two years experience in their professional discipline is suggested.

Requirements for Degree Completion

- Successful completion of 60 quarter hours of coursework beyond the Masters
- Minimum cumulative GPA of 3.0 on a 4.0 scale
- Students must complete the degree in 7 years
- The Interprofessional Studies DSC and PhD require that the students be on campus for a minimum of one full quarter. Flexible arrangements can be made.
- Recommendation to the Board of Trustees by the faculty of the department via the Dean of the College of Health Professions, via the President of the University

Curricular Components

The Interprofessional Studies program is composed of a research and an interprofessional component with opportunity for electives. The research component includes both coursework (18 quarter hours) and either clinical research (minimum 9 quarter hours) or theoretical research activities (minimum 12 quarter hours). The interprofessional component is composed of coursework (15 quarter hours) and practicum experiences (18 quarter hours). The student may select from a broad array of electives to complete the program (3–12 quarter hours).

Courses

Required Courses

Research Component:

Coursework — 18 q.h.

HIPS 505 Introduction to Doctoral Study (3 q.h.)

HIPS 560 Critical Inquiry 1 – Research (3 q.h.)

HIPS 561 Critical Inquiry 2 – Statistics (3 q.h.)

HIPS 562 Measurement Principles (3 q.h.)

HIPS 660 Ethics in Research (3 q.h.)

HIPS 680 Proposal Development (3 q.h.)

Research

HIPS 710 DSc – Clinical Research (Min 9 q.h.)

HIPS 810 PhD – Dissertation Research (Min 12 q.h.)

Interprofessional Component:

Coursework — 15 q.h.

HIPS 501 Introduction to Interprofessional Studies (3 q.h.)

HIPS 550 Evidence-Based Practice (3 q.h.)

HIPS 601 Interprofessional Seminar (3 q.h.)

HHCM 526 Leadership and Management (3 q.h.)

HPTH 619 Principles of Education (3 q.h.)

Fieldwork — 18 q.h.

HIPS 701 Practicum in Interprofessional Education (6 q.h.)

HIPS 702 Interprofessional Service Learning Practicum (6 q.h.)

HIPS 703 Interprofessional Healthcare Practicum (6 q.h.)

Electives:

Coursework — 3–12 q.h.

Specialty Healthcare Courses – PT or other disciplines

Healthcare Management Courses

Nutrition Courses

Course Descriptions:

Research Component

HIPS 505 Introduction to Doctoral Study (3 q.h.)

This course introduces the new graduate student to the importance of critical thinking and the strategies for independent inquiry necessary for doctoral level study. Career patterns and pathways are investigated with emphasis on goal setting. Prerequisite: Admission to the doctoral program.

HIPS 560 Critical Inquiry 1 – Research (3 q.h.)

Students are introduced to the elements of thought and the logic of critical thinking. Measurement theory and principles are studied. The role of the research in professional practice is examined. Principles and application of scientific inquiry are emphasized. Prerequisite: Admission to the doctoral program.

HIPS 561 Critical Inquiry 2 – Statistics (3 q.h.)

This course covers descriptive and inferential statistical procedures with examples of use in the biomedical and clinical sciences. Prerequisite: Successful completion of Critical Inquiry 1.

HIPS 562 Measurement Principles (3 q.h.)

This course is designed to assist students to understand the principles of measurement theory. An opportunity is provided to explore the reliability and validity of measurement instruments of the student's choice. Prerequisites: Successful completion of Critical Inquiry 1 and 2.

HIPS 660 Ethics in Research (3 q.h.)

This course provides an overview of bioethics and discusses a broad range of potential situations in which a researcher may become involved. Familiarization with the ethical decision making process and developing an appreciation for the ethical challenges of research is included. Prerequisites: Successful completion of Critical Inquiry 1 and 2.

HIPS 680 Proposal Development (3 q.h.)

Students are guided through the steps necessary for the development of their dissertation proposals. Each student identifies a research problem, develops a research design and suggests methodology for data collection and analysis. Overall, the course lays the groundwork for the completion of the research work and dissertation. Prerequisite: Successful completion of previous research courses.

HIPS 710 Clinical Research (Min 9 q.h.)

An individualized clinical research project which involves the identification of an interprofessional clinical problem, review of the literature, data collection and analysis followed by the preparation of a publishable paper. Oral defense is required. Prerequisites: Successful completion of all previous coursework.

HIPS 810 Dissertation Research (Min 12 q.h.)

An individualized theoretical research project addressing the integration of two professions performed in a laboratory setting. The student will identify an interprofessional problem, review literature, collect and analyze data and prepare a publishable paper. Oral defense is required. Prerequisite: Successful completion of all previous coursework.

Interprofessional Component**HIPS 501 Introduction to Interprofessional Studies (3 q.h.)**

This course sets the stage for interprofessional study by covering the education, training licensure, roles and functions and history of a variety of health professions. It emphasizes the overlapping nature of the disciplines and stresses collaborative communication and action. Prerequisites: Admission to the program

HIPS 550 Evidence-Based Practice (3 q.h.)

An introduction to the utilization of best evidence in the practice of healthcare in multiple disciplines. What is considered evidence by different professions is covered. The course begins with the development of interprofessional questions and moves to successful search strategies, ending with the application of the evidence to improving quality of care. Prerequisites: Admission to the program.

HIPS 601 Interprofessional Seminar (var)

This course is a discussion centered learning experience in which special topics in the area of Interprofessional Studies are considered. Literature is identified and discussed with a recognized expert in the area. The topic will vary by quarter and be a required sequence in the later years of the program. Prerequisites: Successful completion of all coursework.

HHCM 526 Leadership and Management (3 q.h.)

Provides the healthcare practitioner with theory and skills in the area of leadership management, communication, motivation, interviewing and legal guidelines. Prerequisites: Admission to the program.

HPTH 619 Principles of Education (3 q.h.)

A course designed to aid with the planning, implementing and evaluation of interprofessional academic courses. Methods and models for design and evaluation are included. Prerequisites: Admission to the program.

HIPS 701 Practicum in Interprofessional Education (6 q.h.)

An individualized learning experience in which a student participates in a class with an interprofessional student body. The student develops objectives for the experience, a learning plan and a measurement tool for outcomes. Prerequisite: Successful completion of all previous interprofessional coursework.

HIPS 702 Interprofessional Service Learning Practicum (6 q.h.)

An individualized learning experience in which a student participates in an interprofessional service learning activity. The student develops objectives for the experience, a learning plan and a measurement tool for outcomes. Prerequisite: Successful completion of all previous interprofessional coursework.

HIPS 703 Interprofessional Healthcare Practicum (6 q.h.)

An interprofessional learning experience in which a student plans and observes an interprofessional interaction. The student develops objectives for the experience, a learning plan and a measurement tool for outcomes. Prerequisite: Successful completion of all previous interprofessional coursework.

Schedule

Year 1

Fall Quarter

Introduction to Doctoral Studies

Critical Inquiry 1

Winter Quarter

Introduction to Interprofessional Studies

Critical Inquiry 2

Spring Quarter

Leadership and Management

Interprofessional Seminars

Year 2

Fall Quarter

Evidence-Based Practice

Principles of Education

Winter Quarter

Measurement Principles

Internship in Interprofessional Education

Spring Quarter

Proposal Development

Ethics in Research

Year 3

Fall Quarter

Interprofessional Seminar

Interprofessional Service Learning Internship

Winter Quarter

Interprofessional Seminar Elective

Spring Quarter

Interprofessional Seminar Elective

Year 4

Fall Quarter

Clinical Research

Winter Quarter

Clinical Research

Spring Quarter

Clinical Research

Year 5

Fall Quarter

Dissertation

Winter Quarter

Dissertation

Spring Quarter

Dissertation

Year 6

Fall Quarter

Dissertation

Winter Quarter

Dissertation

Spring Quarter

Dissertation

Faculty

Susan Tappert, PT, DPT, Chair, Interprofessional
Healthcare Studies

Diane Bridges MSN, RN, CCM, Program Director,
Healthcare Management

Gordon Pullen, PhD, Program Director,
Biomedical Sciences

Judith Stoecker, PT, PhD, Program Director, DSc/PhD
in Interprofessional Studies

Department of Medical Radiation Physics

Mission

The mission of the Department of Medical Radiation Physics (MRP) is to provide the best possible academic and professional training to those who wish to pursue a career in medical radiation physics. We subscribe to the excellence in both didactic and research endeavors in preparing and encouraging those students who have academic and scientific aspirations as future teachers and scientists in the application of radiation in medicine.

General Information

The graduate programs in Medical Radiation Physics are offered at the MS and PhD levels by the Department of Medical Radiation Physics in the College of Health Professions at Rosalind Franklin University of Medicine and Science.

The Department of Medical Radiation Physics offers personal interaction combined with multiple learning and research resources. Students in the MRP program receive clinical experience from several affiliated hospitals in the area. Graduates of our programs have taken lead positions in radiological physics at clinical, research, academic and governmental institutions in the United States and abroad. The growing use of technology and computers in our field makes this profession exciting and promising for future growth.

MS Program in Medical Radiation Physics

The MS program concentrates on clinical aspects of medical radiation physics. The master's degree typically requires two full-time years to complete, which covers seven consecutive academic quarters.

Graduate students for the MS degree are required to take all core courses listed in the Department of Medical Radiation Physics section of the College of Health Professions catalogue (except those indicated for students in the PhD program) and fulfill clinical rotation schedules.

Admission to the Programs

Applicants seeking to pursue a master's degree offered by the Department of Medical Radiation Physics will be evaluated by the College of Health Professions Committee based on the following criteria:

- Baccalaureate degree from an accredited university or college
- Previous academic achievement, GPA > 3.0/4.0
- General GRE exam scores
- University-level physics and mathematics coursework
- Letters of recommendation
- A personal interview (when possible)
- TOEFL exam score within the last two years, if you are a foreign applicant who is from a country where English is not the primary language and have not attended a university/college in the United States for two consecutive years.
- International transcripts must be evaluated by an approved US credential evaluation agency

Application materials for the MS program may be obtained by contacting either the Department of Medical Radiation Physics at 847-578-8322, or the Admissions Office at 847-578-3209 or grad.admissions@rosalindfranklin.edu.

PhD Program in Medical Radiation Physics

The PhD program emphasizes research, teaching and professional clinical service. The PhD degree requires a three-year, full-time residency, provided that an acceptable research project and a PhD dissertation would be promptly submitted to the satisfaction of both the Department of Medical Radiation Physics and the College of Health Professions. In addition to the courses mandatory for the MS degree (unless waived by the MRP Department chair), a PhD candidate is required to take the following: Advanced Radiation Dosimetry, Clinical Practicum, Departmental Seminar, and Research and Dissertation.

Admission to the PhD Program

Applicants seeking to pursue a PhD degree offered by the Department of Medical Radiation Physics will be evaluated by the College of Health Professions Committee on the following criteria:

- MS in physics or equivalent of at least six graduate-level physics courses taken by graduate students in an MS program
- Previous academic achievement, GPA
- Adequate preparation in biological, mathematical and physical sciences
- GRE or MCAT Scores
- Letters of recommendation
- A personal interview (when possible)
- TOEFL exam score within the last two years, if you are a foreign applicant who is from a country where English is not the primary language and have not attended a university/college in the United States for two consecutive years.
- International transcripts must be evaluated by an approved US credential evaluation agency

Application materials for the PhD program may be obtained by contacting either the Department of Medical Radiation Physics at 847-578-8322, or the Admissions Office at 847-578-3209 or grad.admissions@rosalindfranklin.edu.

Official notice of acceptance is issued from the Office of the Dean of the College of Health Professions.

Degree Requirements for MRP Programs

The student will be eligible for a degree if he or she:

- Completes all coursework required by the Department
- Maintains a 'B' or better GPA
- Passes a written comprehensive exam
- Completes a qualifying oral examination, original research, dissertation and defense (PhD program only)

Core Courses Offered by Medical Radiation Physics

HMRP 600 and HMRP 700 Basic Radiological Physics I & II

Introductory course in radiological physics; interactions of radiation with matter; concepts and measurements of exposure and dose; clinical applications of radiation in radiation therapy, diagnostic radiology, and nuclear medicine; radiobiology; radiation protection. This course is a prerequisite for most subsequent radiological physics courses.

Program: MS and PhD

HMRP 600 Basic Radiological Physics I

Fall Quarter, three lecture hours per week (3 units).

HMRP 700 Basic Radiological Physics II

Winter Quarter, three lecture hours per week (3 units).

HMRP 601 Health Physics

Health physics related to industry, medical and research applications. Health physics instrumentation and methods used to protect humankind and its environment from unnecessary exposure to radiation. Fall Quarter (3 units).

Program: MS and PhD

HMRP 602 Radiation Biology

Study of effects of radiation on biological systems; survival curves; cell killing mechanisms, heavy particles, LET, and RBE; the oxygen effect, effects of chemicals as sensitizers and radioprotective agents; human effects of radiation. Fall Quarter (3 units).

Program: MS and PhD

HMRP 603 and HMRP 703 Physics of Radiation Oncology I & II

Concept and measurement of exposure and absorbed dose, radiation therapy machines, energy absorption in biological media, and radiobiological basis of radiation therapy are discussed. Radiation fields within a patient, beam characteristics and modification, dose distributions due to single and multiple fields, implant therapy and therapeutic use of particulate radiations and computerized treatment planning.

Program: MS and PhD

HMRP 603 Physics of Radiation Oncology I

Fall Quarter, three lecture hours per week (3 units).

HMRP 703 Physics of Radiation Oncology II

Winter Quarter, three lecture hours per week (3 units).

HMRP 604 Physics of Diagnostic Radiology

Presents the application of radiological physics to specific techniques and problems in the physics of diagnostic radiology. Production and interactions of X-rays; X-ray equipment, imaging systems; image quality; computerized axial tomography; design and survey of radiographic installations; testing and acceptance of radiographic equipment, patient protection. This course is a prerequisite for a clinical practicum in the physics of diagnostic radiology. Fall Quarter (5 units).

Program: MS and PhD

HMRP 605 Physics of Nuclear Medicine

Review of the basic physics of radioactivity; artificial productions of radio-nuclides; instrumentation and laboratory methods; basic considerations for medical applications of radioactive materials. Fall Quarter (3 units).

Program: MS and PhD

HMRP 606 Biomedical Instrumentation

Introduction to instrumentation electronics: transistors and semiconductor devices; quantitative presentation of electrical circuit theory employed in instrumentation circuitry; and related instrumentation applications in biology and medicine. Fall Quarter (3 units).

Program: MS and PhD

HMRP 608 Non-Ionizing Radiation

Principles, clinical uses, and hazards of many non-ionizing radiations are examined. Included are lasers, ultrasound, microwaves, magnetic field, radiofrequency fields, ultraviolet and infrared radiations and very low frequency sound waves. Winter Quarter (3 units).

Program: MS and PhD

HMRP 609 Radiation Oncology

Principles and practice of radiation oncology, clinical background pertinent to the justification and understanding of the technique of radiation therapy. Treatment planning with Co-60 as well as high energy photon and electron beams. Radiotherapy alone and in combination with surgery and chemotherapy. Prerequisite: HMRP 602. Spring Quarter (3 units).

Program: MS and PhD

HMRP 610 Legal Aspects of Medical Physics

Description of responsibilities of medical physicist in medical, academic and industrial institutions. Professional and economic problems, relationship with physicians and other medical personnel, malpractice and legal liability. Spring Quarter (2 units).

Program: MS and PhD

HMRP 611 Radiation Effects on Materials

Effects of radiation on solid-state systems with special emphasis on the structure and properties of various materials. Fall Quarter (3 units).

Program: PhD

HMRP 612 Elements of Materials Science

Engineering requirements for materials in biomedical sciences; atomic structure and properties of organic materials; modifications of material properties and their stability. Spring Quarter (2 units).

Program: PhD

HMRP 613 Independent Study

Independent, directed readings in areas of medical physics not covered by any formal departmental course offerings may be arranged. Such independent study may also be used in preparation for thesis research. Hours and units of credit to be arranged. Offered as required.

Program: MS and PhD

HMRP 614 & 714 Advanced Radiation Dosimetry I & II

This course is intended to provide a thorough survey of the principles, instrumentation, and applications of radiation dosimetry. Interactions of ionizing radiations with matter, cavity-chamber theory; dosimetry instrumentation including ion chambers, film, Geiger counters, TLD, and applications of dosimetry principles to clinical problems.

Program: PhD

HMRP 614 Winter Quarter (5 units)**HMRP 714 Spring Quarter (5 units)****HMRP 615 Departmental Seminar**

The Medical Radiation Physics faculty meet regularly to discuss problems of current interest. Guest speakers are invited. Participation in the seminars is required. A total of at least two Departmental Seminars is required for graduate students in the Medical Radiation Physics program. All quarters (1 unit).

Program: MS and PhD

HMRP 616 Clinical Practicum

The purpose of the clinical practicum is to give the student clinical experience and exposure to the hospital environment in which the physicist participates. In collaboration with a faculty advisor, the student arranges a rotation schedule in the departments of radiation therapy, diagnostic radiology and nuclear medicine in one or more of a number of affiliated hospitals. During this time the student works full-time under the direct supervision of an experienced clinical physicist. All quarters (3–12 units per quarter).

Program: MS and PhD

HMRP 619 and HMRP 620 Essentials of Anatomy and Physiology I & II

The course presents an equal balance of basic anatomic and physiologic concepts. It is designed to introduce students pursuing careers in the allied health fields to the structure and function of the human body. Occasional pathologic examples are presented to portray what might be seen clinically when there is malfunction and disease.

Program: MS and PhD

HMRP 619 Essentials of Anatomy and Physiology I

Fall Quarter, includes lectures on the following areas: microscopic anatomy, skin, skeletal system, muscular system, nervous system and special senses. 3 lecture hours per week (3 units).

HMRP 620 Essentials of Anatomy and Physiology II

Winter Quarter, includes lectures on the following areas: endocrine system, blood, immunology, circulatory system, respiratory system, gastrointestinal system, urinary system and reproductive system. 3 lecture hours per week (3 units).

HMRP 622 Physics of Medical Imaging

Presents the physical aspects of various instrumentation and techniques in the field of Medical Imaging Sciences. Review of concepts of production and interaction of radiation with matter; technical and clinical applications of various devices such as X-ray equipment, CT, MRI, that are routinely used in Medical Imaging. Winter Quarter (4 units).

Program: MS and PhD

HMRP 623 Introduction to Diagnostic Radiology

Covers basic interpretation of X-ray of the chest, abdomen, bony structures, including barium studies of the gastrointestinal tract. Provides students with the fundamental physics and interpretation of CT scans of the brain, chest, abdomen and pelvis. MRI will also be introduced along with the introduction to basic ultrasonography, mammography, nuclear medicine, and angiography. Fall Quarter (2 units).

Program: MS and PhD

HMRP 624 Topics in Medical Imaging Sciences

This course covers basic radiographic and human anatomy including physiology of the organ systems

and the understanding of the fundamental pathology. Some treatment of diseases will also be included. At the end of this course, students will have gained the knowledge and general concept of the working of an X-ray department. Fall Quarter (2 units).

Program: MS and PhD

HMRP 625 and HMRP 626 Biochemistry for Medical Physicists I & II

This two-part course is intended as an introduction to biochemistry for students in the Medical Radiation Physics program. The general spectrum of topics is similar to that contained in Introductory Biochemistry but in less detail. The course begins with a preliminary review of organic chemistry nomenclature; emphasis is on the effects of radiation and mutagenic compounds on nucleic acids.

Program: MS and PhD

HMRP 625 Biochemistry for Medical Physicists I

Winter Quarter, two lecture hours per week (2 units).

HMRP 625 Biochemistry for Medical Physicists II

Spring Quarter, two lecture hours per week (2 units).

HMRP 630 Research and Dissertation/Thesis

Research and a written dissertation are required of all students in the PhD program. The dissertation shall represent a report of original research of sufficiently high scientific quality to be acceptable for publication in the standard journals of the field. Some MS students in the Medical Radiation Physics (MRP) program are also encouraged to conduct research and submit a MS Thesis.

HMRP 690 Zero Credit

This designation is utilized for students who have completed all course and research requirements but are continuing with thesis/dissertation work.

HMTD 500 Interprofessional Healthcare Teams

This course is an experiential learning opportunity for all students at Rosalind Franklin University of Medicine and Science to learn about a collaborative model of care. The students will interact in healthcare teams focusing on patient-centered care emphasizing evidence-based practice, quality improvement strategies and informatics (1 unit).

Elective Courses

HMRP 617 Radiation Safety

Basic concepts of radiation safety and protection that covers various practical aspects of radioisotope laboratories, hazard control, decontamination and waste disposal, instrumentation and monitoring methods, federal and state regulations. Fall Quarter (1 unit).

HMRP 618 Fundamentals of Medical Anatomy

The course presents various aspects of human anatomy and neuroanatomy on a system-based approach, comprised of lecture and laboratory sessions. Lecture topics will include circulatory (e.g., blood, cerebrospinal fluid and lymphatic circulation), nervous (peripheral nerves and central pathways), respiratory, digestive, urogenital, musculoskeletal and endocrine systems, enhanced by slide presentations, computer-generated demonstrations and video dissections of anatomical specimens. Fall Quarter (3 units).

HMRP 621 General Medical Radiation Physics

Describes the general concepts of radiation physics as applied in medicine; review of basic physical concepts of ionizing radiation and various instrumentation for radiation production as well as measurement; introduction of clinical applications of ionizing radiation to radiation oncology, diagnostic radiology, nuclear medicine, and health physics. Fall Quarter (5 units).

GGCS 717 Biostatistics

Introduction to data analysis and computer techniques for the biological sciences. Topics covered include: descriptive statistics, parametric and non-parametric hypothesis testing, analysis of variance, simple linear regression and correlation. Prerequisites: None. Spring Quarter (4 units).

GGCS 724 Ethics in Biomedical Research

This course covers a variety of topics that are related to the responsible conduct of research in the biomedical sciences. The topics include scientific integrity in the gathering and reporting of data, proper allocation of credit in collaborative studies, and the various types of misconduct that are seen in research. The ethical use of animals and human subjects is also discussed. Current issues concerning the societal role of the academic scientist in dealing with the media, commercialized research, etc. are presented. The course is structured along federal guidelines on scientific integrity as part of research training, and is aimed to prepare students for the various ethical situations that may arise during the course of a research career. This course is a mandatory for all graduate students. Spring Quarter (1 unit)

Faculty and Associated Staff

Robert E. Drzymala, PhD, Lecturer

William Ellingson, PhD, Adjunct Professor

Kyung Han, PhD, Adjunct Associate Professor

Tomasz Helenowski, MD, Clinical Associate Professor

Allen Hrejsa, PhD, Adjunct Associate Professor

John LeVan, PhD, DPhil, Professor and Chair

Paul LeVan, JD, PhD, Clinical Assistant Professor

Alexander Markovic, PhD, Assistant Professor

Paul Schabinger, MD, Clinical Associate Professor

Gary Schreiber, MD, Clinical Assistant Professor

Ernest Sukowski, PhD, Associate Professor

Brian Tom, PhD, DPhil, Adjunct Assistant Professor

Master of Science in Nurse Anesthesia

Professional Definition

Nurse anesthetists have provided anesthesia care in the United States for 125 years. Nurses first provided anesthesia to wounded soldiers during the Civil War. Some 33,000 Certified Registered Nurse Anesthetists (CRNAs) administer approximately 65% of all anesthetics annually in the United States. CRNAs are the sole anesthesia providers in about two thirds of all U.S. rural hospitals, enabling these facilities to provide obstetrical, surgical and trauma stabilization services. According to a 1999 report from the Institute of Medicine, anesthesia care today is nearly 50 times safer than it was 20 years ago. CRNAs provide anesthesia to patients in collaboration with surgeons, anesthesiologists, dentists, podiatrists, and other qualified healthcare professionals. When anesthesia is administered by a nurse anesthetist, it is recognized as the practice of nursing; when administered by an anesthesiologist, it is considered the practice of medicine. As advanced practice nurses, CRNAs practice with a high degree of autonomy and professional respect. They carry a heavy load of responsibility and are compensated accordingly. CRNAs practice in every setting where anesthesia is delivered: traditional hospital surgical suites and obstetrical delivery rooms; critical access hospitals; ambulatory surgical centers; the offices of dentists, podiatrists, ophthalmologists, plastic surgeons, and pain management specialists; the U.S. Military, Public Health Services and Department of Veterans Affairs healthcare facilities.

Description of the Program

This is a rigorous didactically front-loaded program in nurse anesthesia. The first 12 months entail classroom and laboratory study, combined with human patient simulation and operating room observation. A 15 month clinical practicum follows, where students learn to provide anesthesia care for patients of all acuity levels across the lifespan who are undergoing surgical procedures of varying complexity.

Goals

The overall objective of the Master of Science in Nurse Anesthesia program is to prepare an advanced practice nurse for a career as a nurse anesthetist with leadership skills. This full-time, 27 month program will develop a reflective practitioner who uses evidence in decision making. Graduates will have competitive entry-level knowledge, skills and abilities in nurse anesthesia practice.

Mission

The mission of the Nurse Anesthesia Program is to prepare and educate nurse anesthetists to provide high quality advanced practice nurse anesthesia care in a competent, compassionate and ethical manner. The department also promotes research and academic endeavors that contribute to the advancement of the knowledge and education of fellow healthcare professionals and community service.

Vision

The Nurse Anesthesia Program will prepare and educate graduates who provide safe, competent, compassionate and culturally-appropriate anesthesia care. Graduates will be academic and practice setting leaders.

The Vision will be Achieved as Follows:

1. Encouraging nurse anesthesia students and graduates to be patient advocates and integral members of the health care team, meeting the needs of all patients.
2. Promoting research, professional engagement and academic endeavors as part of the process of life-long learning.
3. Providing and encouraging continuing education for colleagues across healthcare disciplines.
4. Promoting community service to meet educational and health care needs of the community.
5. Developing professional leaders in nurse anesthesia, advanced practice nursing, and in the non-physician provider community.

Admission Requirements

- Completion of University and program application materials.
- Submission of all undergraduate and graduate-level transcripts.
- A grade point average (GPA) of 3.0 on a 4 point scale, or higher. Students not meeting the GPA requirement may be admitted conditionally with faculty recommendation.
- Payment of a non-refundable application fee.
- Baccalaureate degree from an accredited college or university.
- Current licensure as a registered professional nurse in the United States, its territories or protectorates.
- At least one year, preferably two, of experience as an RN in an acute care setting. This experience should include personally caring for patients with invasive monitoring lines, vasoactive/sedative/analgesic infusions, EKG interpretation, and caring for mechanically ventilated patients.
- Competitive GRE scores.
- Acceptable TOEFL scores for applicants whose primary language is not English.
- A personal statement indicating goals for graduate education in nurse anesthesia.
- Interview with faculty members.
- Three letters of recommendation, one of which must be from a CRNA with whom the applicant has spent time in the operating room observing surgery and anesthesia.
- A current resume.

Programmatic Accreditation

The program was reviewed by the Council on Accreditation of Nurse Anesthesia Educational Programs. The next accreditation review is scheduled for May 2010.

The Council on Accreditation of Nurse Anesthesia Educational Programs

222 S. Prospect Avenue

Park Ridge, IL 60068

Phone: 847.692.7050

E-mail: accreditation@aana.com

Application Deadline

The deadline for complete application files is September 1. Interviews will be held in October, and selection decisions will be communicated to applicants by the end of November each year.

Terminal Learning Objectives

Upon completion of the 27 month Master's Degree Program in Nurse Anesthesia, the graduate should be able to:

- Maintain patient safety.
- Protect patients from iatrogenic complications.
- Position or supervise the positioning of patients to prevent injury.
- Perform a pre-anesthetic assessment and formulate an appropriate anesthesia care plan.
- Use a variety of current anesthesia techniques, agents, adjunctive drugs, and equipment while providing anesthesia.
- Conduct a comprehensive and appropriate equipment check.
- Initiate appropriate action when confronted with anesthetic equipment-related malfunction.
- Provide anesthesia services in emergency cases, including trauma.
- Administer general anesthesia to patients of all ages with varied physical, medical, and surgical conditions.
- Administer and manage a variety of regional anesthetics.
- Interpret and utilize data obtained from invasive and non-invasive monitoring modalities.
- Calculate, initiate, and manage fluid and blood component therapy.
- Recognize and respond appropriately to anesthetic complications that occur during the perioperative period.
- Utilize universal precautions and appropriate infection control measures.
- Function as a resource person for airway and ventilator management of patients.
- Serve as a leader or member of a cardiopulmonary resuscitation team and possess advanced cardiac life support recognition.
- Participate in quality management activities.
- Function within appropriate legal requirements as a registered professional nurse, accepting responsibility for his or her practice.
- Demonstrate personal and professional integrity and the ability to interact on a professional level.

Graduation Requirements

- Successful completion of the didactic and clinical portions of the program.
- Minimum cumulative GPA of 3.0 on a 4.0 scale.
- Recommendation to the Board of Trustees by the faculty of the department via the Dean of the College of Health Professions, via the President of the University.

Program of Study

27 Month Full-Time Track

Term 1 Spring

HNAS 750 Physiology & Pathophysiology (6)
 HNAS 701 Principles of Anesthesia I (3)
 HNAS 710 Chemistry & Physics in Anesthesia (3)
 HNAS 711 Clinical Correlations I (1)
 13 credits

Term 2 Summer

HPAS 500 Gross Anatomy (10)
 HNAS 700 Professional Issues and Ethics (2)
 12 credits

Term 3 Autumn

HMTD 500 Interprofessional Healthcare Teams (1)
 HNAS 702 Principles of Anesthesia II (3)
 HPAS 530 Pharmacology I (4)
 HPAS 528 Research & Statistics (3)
 HNAS 712 Clinical Correlations II (1)
 12 credits

Term 4 Winter

HNAS 703 Principles of Anesthesia III (4)
 HPAS 531 Pharmacology II (4)
 HNAS 720 Anesthesia Pharmacology (3)
 HNAS 713 Clinical Correlations III (1)
 12 credits

Term 5 Spring

HNAS 706 Regional Anesthesia & Advanced
 Airway Management (3)
 HNAS 810 Clinical Practicum I (10)
 HNAS 714 Clinical Seminar I (1)
 14 credits

Term 6 Summer

HNAS 820 Clinical Practicum II (12)
 HNAS 715 Clinical Seminar II (1)
 13 credits

Term 7 Autumn

HNAS 830 Clinical Practicum III (12)
 HNAS 716 Clinical Seminar III (1)
 13 credits

Term 8 Winter

HNAS 840 Clinical Practicum IV (12)
 HNAS 717 Clinical Seminar IV (1)
 13 credits

Term 9 Spring

HNAS 850 Clinical Practicum V (12)
 HNAS 718 Clinical Seminar V (1)
 HNAS 806 Master's Project (4)
 17 credits

Course Descriptions

Content Area: Physiology, Pathophysiology (16 qh)

HPAS 500 Gross Anatomy (10 qh)

This course utilizes formal lecture and cadaver dissection to perform an in-depth study of the structure of the entire human body. This format is supplemented with several lectures specifically designed to correlate the anatomical findings with clinical applications for the medical practitioner.

Prerequisite: Admission to the Nurse Anesthesia program.

HNAS 750 Physiology & Pathophysiology (6 qh)

In this course, physiology and pathophysiology for nurse anesthetists is presented through a Web-supported platform that includes weekly quizzes and case discussions. Following an overview of cellular and neuronal physiology, the following body systems are emphasized: muscular-skeletal, cardiovascular, respiratory, renal, and endocrine.

Prerequisite: Admission to the Nurse Anesthesia program or admission to the University as a Special Student.

Content Area: Research (7 qh)**HPAS 528 Research & Statistics (3 qh)**

The purpose of this course is to introduce students to the utilization of research and statistics in health care. Topics include principles of research, ethics, information retrieval, the literature review and critical examination of articles. Students begin their work on group research projects and research competencies. In the statistics portion of the course, descriptive and inferential statistics are taught with relevance to health care research. Use of computer applications for statistical analysis is included.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 806 Master's Project (4 qh)

This is a major project including development of a problem statement, objectives for the experience and literature review. A significant outcome document, such as a research paper, course materials, or textbook chapter, is produced. Students will identify the topic of their master's project at the completion of HPAS 528 and have quarterly meetings with their advisors thereafter to discuss progress on the project. A public presentation about the project is made during term 9, the final quarter of study.

Prerequisite: Satisfactory completion of HPAS 528 and all other previous courses in the Nurse Anesthesia program or faculty approval.

Content Area: Professional Aspects of Practice (5 qh)**HNAS 700 Professional Issues and Ethics (2 qh)**

This course is designed to familiarize the student with the history and traditions of the nurse anesthesia profession. Students will learn about nurse anesthesia practice in various healthcare settings. This content will be complemented by a focused review of current philosophies, policies, and ethical issues in contemporary health care, emphasizing the perioperative setting. A hybrid approach of Web-supported didactics augmented with biweekly live review and case discussion sessions will be utilized.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

Content Area: Pharmacology of Anesthetic Agents & Adjuvant Drugs (11 qh)

HPAS 530 Pharmacology & Clinical Therapeutics I (4 qh)

This course will explore general pharmacological principles, drug receptor sites, important drug interactions, and the effects of drugs on the nervous system. It will integrate the general pharmacological principles of pharmacodynamics, pharmacokinetics, mechanisms of action, classes of therapeutic agents, recommended dosing, proper routes of administration, common side effects, drug indications and contraindications.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HPAS 531 Pharmacology & Clinical Therapeutics II (4 qh)

This course is a continuation of HPAS 530, and covers drugs not previously reviewed in the first quarter.

Prerequisite: HPAS 530 and satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 720 Advanced Nurse Anesthesia Pharmacology (3 qh)

This course covers the pharmacokinetic and pharmacodynamic principles of specific anesthetic and adjunct drugs in anesthesia practice. Information related to the selection, administration, dosage and side effects of these drugs is emphasized. Drug categories that will be covered include: intravenous induction agents/hypnotics; benzodiazepines; inhalation anesthetics; opioids; and muscle relaxants. A hybrid approach of Web-supported didactics augmented with biweekly live review and case discussion sessions will be utilized.

Prerequisite: HPAS 531 and satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

Content: Anesthesia Practice – Physics, Equipment, Principles and Pain Management (17 qh)

HNAS 710 Chemistry and Physics of Anesthesia (3 qh)

This course provides basic science foundational to anesthesia practice, including: gas laws; the basics of chemistry; biological macromolecules; physics related to anesthesia and monitoring equipment; medical mathematics, and a review of pharmacokinetics and pharmacodynamics are all presented. A hybrid approach of Web-supported didactics augmented with biweekly live review and case discussion sessions will be utilized.

Prerequisite: Admission to the Nurse Anesthesia program.

HNAS 701 Principles of Anesthesia I (4 qh)

Basic principles of nurse anesthesia will be discussed, including: preoperative assessment; the anesthesia machine and breathing circuits; airway management; legal and historical aspects of nurse anesthesia practice. An overview of basic anesthesia pharmacology will be presented. A hybrid approach of Web-supported didactics augmented with biweekly live review and case discussion sessions will be utilized.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 702 Principles of Anesthesia II (3 qh)

Building on content presented in HNAS 701, this course will provide an overview of advanced principles of anesthesia care. Anesthetic considerations for specialty surgical areas such as peripheral vascular, cardiovascular, neurological, thoracic, orthopedic, trauma and burns will be reviewed. A hybrid approach of Web-supported didactics augmented with biweekly live review and case discussion sessions will be utilized.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 703 Principles of Anesthesia III (4 qh)

In this course, anesthetic considerations for obstetric and pediatric patients will be discussed. Unique anatomic, physiologic and pathophysiologic considerations related to these patient populations will be reviewed. A hybrid approach of Web-supported didactics augmented with biweekly live review and case discussion sessions will be utilized.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 706 Regional Anesthesia & Advanced Airway Management (3qh)

This course covers the anatomy and physiology of the peripheral nerves, spinal cord, upper and lower airways. The pharmacology of local anesthetics and administration and management of regional anesthesia (peripheral, neuraxial, inhaled, topical, local infiltration) is emphasized. Acute and chronic pain management will be discussed. This course will meet in the Anesthesia Department at Hines VA Hospital and on campus in the anatomy lab. Prosections of the head and neck will be used to teach airway anatomy, physiology, pathophysiology and regional anesthesia anatomy for the airway.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

Content: Clinical Correlation Experiences (8 qh)**HNAS 711 Clinical Correlations I (1 qh)**

This course provides initial clinical correlation with didactic content through use of the human patient simulator. Students will review the steps in preoperative assessment, anesthesia care planning, implementation and evaluation. Checkout and troubleshooting of the anesthesia machine will also be reviewed.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 712 Clinical Correlations II (1 qh)

During this experience, students will rotate to clinical sites for preoperative clinic experiences in patient assessment and anesthesia care planning, one morning per week.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 713 Clinical Correlations III (1 qh)

This will be the introduction to the operating room and clinical anesthesia. Students will be assigned to observe anesthesia across the perioperative continuum one morning per week.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 714 Clinical Correlation IV (1 qh)

This is the initial clinical correlation conference (case studies, key words presentations) during Term 5. Clinical commitments will not exceed four weekdays or 32 hours per week to accommodate scheduling of HNAS 706, Regional Anesthesia & Advanced Airway Management. HNAS 714 and HNAS 706 will meet on alternate Fridays during Term 5.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 715 Clinical Seminar I (1 qh)

During the clinical practicum, students will return to campus one day per month for key word presentations, case discussions, and board review activities. Students will critique assigned articles and learn how to develop presentations.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 716 Clinical Seminar II (1 qh)

During the clinical practicum, students will return to campus one day per month for key word presentations, case discussions, and board review activities. Students will critique assigned articles and learn how to develop presentations.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 717 Clinical Seminar III (1 qh)

During the clinical practicum, students will return to campus one day per month for key word presentations, case discussions, and board review activities. Students will critique assigned articles and learn how to develop presentations.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 718 Clinical Seminar IV (1 qh)

During the clinical practicum, students will return to campus one day per month for key word presentations, case discussions, and board review activities. Students will critique assigned articles and learn how to develop presentations.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

Content: Clinical Experience (58 qh)**HNAS 810 Clinical Practicum I (10 qh)**

This is the first clinical practicum that will occur during Term 5. To allow for the transition to a full-time clinical practicum and accommodate HNAS 706 during this term, students will be in the clinical area four days per week or not greater than 32 hours per week.

Students will be supervised by CRNAs and anesthesiologists at the three VA clinical sites and have opportunities to synthesize and apply previous learning. Students must maintain professionalism and be open to various teaching styles and learning experiences. It is expected that the student will remain with cases in progress through their conclusion. There will be twice-monthly clinical correlation conference (HNAS 714) to review clinical experiences, present key words, and conduct case discussions.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 820 Clinical Practicum II (12 qh)

During this quarter, students will continue rotations at VA clinical sites and begin rotations to non-VA sites contingent on documented progress in daily clinical evaluations. Students will be in the clinical area five days per week, or for approximately 40 hours, as negotiated with the clinical coordinators. Students will be supervised by CRNAs and anesthesiologists and will have opportunities to synthesize and apply previous learning. Students must maintain professionalism and be open to various teaching styles and learning experiences. It is expected that the student will remain with cases in progress through their conclusion. There will be a monthly clinical correlation conference (HNAS 715) to review clinical experiences, critique journal articles, present key words, conduct case discussions, and review progress on master's projects.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 830 Clinical Practicum III (12 qh)

Students will continue rotations at VA and other clinical sites contingent on documented progress in daily clinical evaluations. Students will be in the clinical area five days per week, or for approximately 40 hours, as negotiated with the clinical coordinators. Students will be supervised by CRNAs and anesthesiologists and will have opportunities to synthesize and apply previous learning. Students must maintain professionalism and be open to various teaching styles and learning experiences. It is expected that the student will remain with cases in progress through their conclusion. There will be a monthly clinical correlation conference (HNAS 716) to review clinical experiences, critique journal articles, present key words, conduct case discussions, and review progress on master's projects.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 840 Clinical Practicum IV (12 qh)

Students will continue rotations at VA and other clinical sites contingent on documented progress in daily clinical evaluations. Students will be in the clinical area five days per week, or for approximately 40 hours, as negotiated with the clinical coordinators. Students will be supervised by CRNAs and anesthesiologists and will have opportunities to synthesize and apply previous learning. Students must maintain professionalism and be open to various teaching styles and learning experiences. It is expected that the student will remain with cases in progress through their conclusion. There will be a monthly clinical correlation conference (HNAS 717) to review clinical experiences, critique journal articles, present key words, conduct case discussions, and review progress on master's projects.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

HNAS 850 Clinical Practicum V (12 qh)

Students will continue rotations at VA and other clinical sites contingent on documented progress in daily clinical evaluations. Students will be in the clinical area five days per week, or for approximately 40 hours, as negotiated with the clinical coordinators. Students will be supervised by CRNAs and anesthesiologists and will have opportunities to synthesize and apply previous learning. Students must maintain professionalism and be open to various teaching styles and learning experiences. It is expected that the student will remain with cases in progress through their conclusion. There will be a monthly clinical correlation conference (HNAS 718) to review clinical experiences, critique journal articles, present key words, conduct case discussions, and review progress on master's projects. The final two weeks of this quarter will be reserved for presentation of master's projects, board review activities, and graduation-related processes.

Prerequisite: Satisfactory completion of all previous courses in the Nurse Anesthesia program or faculty approval.

Other Required Courses (1 qh)**HMTD 500 Interprofessional Healthcare Teams (1 qh)**

This is an experiential learning opportunity for all students at RFUMS to learn about the collaborative care model. Students will interact in health care teams focused on patient-centered care, emphasizing evidence-based practice, quality improvement strategies and informatics.

Part-Time Curriculum

In the part-time program of study, the didactic curriculum extends over nine rather than five quarters. Credits per quarter in the part-time program range from five to 10 credits. In quarters 7 through 9, there will be one day per week of observation and clinical practicum in the OR. This will enable students to correlate didactic content with clinical practice and become familiar with the clinical area prior to beginning the full-time practicum. Time demands for students will increase in quarters 7-9. The clinical practicum would still be full-time.

The choice of full- or part-time track will be left up to the individual student, who will declare their intent at the time enrollment is offered.

Term 1 – Spring

HNAS 750 Physiology & Pathophysiology (6)
6 credits

Term 2 – Summer

HPAS 500 Gross Anatomy (10)
10 credits

Term 3 – Autumn

HPAS 530 Pharmacology I (4)
HPAS 528 Research & Statistics (3)
7 credits

Term 4 – Winter

HPAS 531 Pharmacology II (4)
4 credits

Term 5 – Spring

HNAS 710 Chemistry & Physics in Anesthesia (3)
HNAS 701 Principles of Anesthesia I (3)
HNAS 711 Clinical Correlations I (1)
7 credits

Term 6 – Summer

HNAS 700 Professional Issues & Ethics (2)
2 credits

Term 7 – Autumn

HMTD 500 Interprofessional Healthcare Teams (1)
HNAS 702 Principles of Anesthesia II (3)
HNAS 712 Clinical Correlations II (1)
5 credits

Term 8 – Winter

HNAS Principles of Anesthesia III (4)
HNAS 720 Anesthesia Pharmacology (3)
HNAS 713 Clinical Correlations III (1)
8 credits

Term 9 – Spring

HNAS 706 Regional Anesthesia & Advanced Airway Management (3)

HNAS 810 Clinical Practicum I (10)
HNAS 714 Clinical Seminar I (1)
14 credits

Term 10 – Summer

HNAS 811 Clinical Practicum II (12)
HNAS 715 Clinical Seminar II (1)
13 credits

Term 11 – Autumn

HNAS 812 Clinical Practicum III (12)
HNAS 716 Clinical Seminar III (1)
13 credits

Term 12 – Winter

HNAS 813 Clinical Practicum IV (12)
HNAS 717 Clinical Seminar IV (1)
13 credits

Term 13 – Spring

HNAS 814 Clinical Practicum V (12)
HNAS 718 Clinical Seminar V (1)
HNAS 806 Master's Project (4)
17 credits

Faculty

Michael J. Kremer, PhD, CRNA, FAAN, Chair
Lenore M. Litwin, MSN, CRNA, Assistant Chair
Sarah S. Garber, PhD, Assistant Professor

Department of Nutrition

Department Description

The Master of Science in Nutrition program at Rosalind Franklin University of Medicine and Science is designed to improve the quality of nutritional care provided by its graduates. The distance learning graduate program in the Department of Nutrition focuses on five competency areas: application of nutrition knowledge, teaching nutrition information, demonstration of the processes of critical inquiry and research, application of technology to professional activities, and demonstration of effective professional communication. Courses in the use of computer software and the Internet round out the curricula for two program tracks that provide our students with a competitive edge for positions in administration, clinical dietetics, nutrition education, health professional training programs, the food industry, and research. Students can earn an MS in Clinical Nutrition or an MS in Nutrition Education. Thesis and non-thesis options are available for both degree tracks.

The MS Program in Nutrition is taught online and is designed for students who must maintain full-time employment and/or have other personal or professional commitments, are self-motivated and goal-oriented, have the ability to work independently, and cannot or do not wish to relocate to participate in a traditional campus-based program. Students enroll in one or two courses per quarter. All coursework, projects, and exams are completed online. No on-campus attendance is required. Students are required to have access to a computer and acquire direct Internet access. Contact between faculty and students is conducted through the Internet, e-mail, telephone, postal mail, and fax. Although our program is more convenient, it is not an easy route for earning a graduate degree. Our academic standards are high and the curriculum is challenging.

Rosalind Franklin University of Medicine and Science is accredited through the North Central Association of Colleges and Schools and receives its degree granting authority from the Illinois Board of Higher Education. Because the Master of Science Program in Nutrition is not a training program nor does it lead to eligibility for the registration examination for the RD credential, accreditation by the American Dietetic Association is not required.

To apply for admission, students must complete the standard procedures used at Rosalind Franklin University of Medicine and Science. Once accepted, students have up to five (5) years to complete the master's degree.

Admission Procedures and Requirements

- Bachelor's degree in nutrition, dietetics, or a related health or science field from an accredited institution. (A strong science background is needed. Required science courses include biology, chemistry with lab, organic chemistry with lab, physiology and biochemistry.) If you are considering a career change or are not a registered dietitian and/or do not possess a degree in nutrition, please contact the Department for individual advising. For those with a degree in the sciences but without a degree in nutrition, the Department does offer a series of two transition courses covering basic human nutrition, nutrition through the lifecycle, and clinical nutrition, designed to provide you with the background knowledge to participate in our program.)
- Cumulative minimum grade point average of 2.75 on 4.0 scale during the last two years of college.
- Work experience in nutrition and/or dietetics or a related health or science field (highly recommended).
- Submission of a completed application packet (applications can be downloaded from our Web site at www.rosalindfranklin.edu), nonrefundable application fee and two letters of recommendation from persons involved in previous or current educational and/or work experience, whichever is more extensive and recent.
- Official transcripts submitted from every college and university previously attended.
- Proficiency in written and verbal English. Official results of the Test of English as a Foreign Language (TOEFL), if the Bachelor's Degree is from a foreign university where English is not the native language.
- The Department of Nutrition follows a rolling admissions policy, which means that applications are reviewed by the Departmental Admissions committee once the applicant's file has been completed, with notification of the Committee's decision sent shortly thereafter. All successful candidates are accepted for Fall, Winter or Spring Quarter, with Fall Quarter preferred.

Requirements for the Degree

Degree Tracks:

MS in Clinical Nutrition (Non-Thesis)

- A minimum of 42 quarter hours (q.h.) of graduate credit is required for the degree.
- 17 q.h. Nutrition Core
- 7 q.h. Research Core
- 3 q.h. Computer Technology Core
- 6 q.h. Education Core
- 6 q.h. Electives
- 3 q.h. MS Portfolio Evaluation
- Cumulative grade point average of 3.0 (B) or better.
- Successful completion of the Final Portfolio Evaluation.
- Demonstration of computer proficiency.
- Completion of all program requirements within five (5) years from the time of acceptance into the program.

Curriculum

Research Core:

HPTH 501 Practical Statistics

HNUT 580 Evaluating Research

Educational Core:

HNUT 505 Professional Communication

HNUT 532 Instructional Design

Nutrition Core:

HNUT 550 Carbohydrate and Lipid Metabolism

HNUT 551 Protein and Energy Metabolism

HNUT 552 Vitamins and Minerals

HNUT 554 Nutrition in Critical Care

HNUT 556 Advanced Clinical Nutrition

Computer Technology Core:

HNUT 504 Critical Skills for Online Learning

Completion of online training modules in the use of required software. (optional)

Final Portfolio Evaluation

HNUT 596 Portfolio Evaluation

Elective(s)

Completion of 6 quarter hours of elective coursework.*

MS in Clinical Nutrition (Thesis)

- A minimum of 52 quarter hours (q.h.) of graduate credit is required for the degree.
- 17 q.h. Nutrition Core
- 9 q.h. Research Core
- 3 q.h. Computer Technology Core
- 6 q.h. Education Core
- 3 q.h. Electives
- 14 q.h. Thesis Core
- Cumulative grade point average of 3.0 (B) or better
- Completion and submission of an acceptable written thesis
- Successful thesis defense
- Demonstration of computer proficiency
- Completion of all program requirements within five (5) years from the time of acceptance into the program.

Curriculum

Research Core

HPTH 501 Practical Statistics

HNUT 580 Evaluating Research

HNUT 590 Thesis Topic Development

Education Core

HNUT 505 Professional Communication

HPTH 532 Instructional Design

Nutrition Core

HNUT 550 Carbohydrate and Lipid Metabolism

HNUT 551 Protein and Energy Metabolism

HNUT 552 Vitamins and Minerals

HNUT 554 Nutrition in Critical Care

HNUT 556 Advanced Clinical Nutrition

Computer Technology Core

HNUT 504 Critical Skills for Online Learning

Completion of online training modules in the use of required software. (optional)

Thesis Core

HNUT 592 Proposal Development

HNUT 593 Thesis Research

HNUT 594 Data Analysis Lab

MS in Nutrition Education (Non-Thesis)

- A minimum of 42 quarter hours (q.h.) of graduate credit is required for the degree
- 11 q.h. Nutrition Core
- 7 q.h. Research Core
- 3 q.h. Computer Technology Core
- 12 q.h. Education Core
- 6 Electives
- 3 q.h. MS Final Portfolio Evaluation
- Cumulative grade point average of 3.0 (B) or better
- Successful completion of the Final Portfolio Evaluation
- Demonstration of computer proficiency
- Completion of all program requirements within five (5) years from the time of acceptance into the program.

Curriculum

Research Core

HPTH 501 Practical Statistics

HNUT 580 Evaluating Research

Education Core:

HNUT 505 Professional Communication

HNUT 525 Evaluation

HNUT 532 Instructional Design

HNUT 533 Online Instruction

Nutrition Core

HNUT 550 Carbohydrate and Lipid Metabolism

HNUT 551 Protein and Energy Metabolism

HNUT 552 Vitamins and Minerals

Computer Technology Core

HNUT 504 Critical Skills for Online Learning

Completion of online training modules in the use of required software. (optional)

Comprehensive Exam

HNUT 595 Comprehensive Exam Development

Final Portfolio Evaluation

HNUT 596 Portfolio Evaluation

Electives

Completion of 3 quarter hours of elective coursework.*

MS in Nutrition Education (Thesis)

- A minimum of 52 quarter hours (q.h.) of graduate credit is required for the degree
- 11 q.h. Nutrition Core
- 9 q.h. Research Core
- 14 q.h. Thesis Core
- 3 q.h. Computer Technology Core
- 12 q.h. Education Core
- 3 q.h. Electives

Cumulative grade point average of 3.0 (B) or better

- Completion and submission of an acceptable written thesis
- Successful thesis defense
- Demonstration of computer proficiency
- Completion of all program requirements within five (5) years from the time of acceptance into the program.

Curriculum

Research Core

HPTH 501 Practical Statistics

HNUT 580 Evaluating Research

HNUT 590 Thesis Topic Development

Education Core

HNUT 505 Professional Communication

HNUT 525 Evaluation

HNUT 532 Instructional Design

HNUT 533 Online Instruction

Nutrition Core

HNUT 550 Carbohydrate and Lipid Metabolism

HNUT 551 Protein and Energy Metabolism

HNUT 552 Vitamins and Minerals

Computer Technology Core

HNUT 504 Critical Skills for Online Learning

Completion of online training modules in the use of required software. (optional)

Thesis Core

HNUT 592 Proposal Development

HNUT 593 Thesis Research

HNUT 594 Data Analysis Lab

*Electives

For MS in Clinical Nutrition
and MS in Nutrition Education

HHCM 526 Leadership and Management

HHCM 522 Healthcare Delivery Systems

HNUT 533 Online Instruction*

HNUT 541 Promoting Healthy Lifestyles

HNUT 542 Herbs, Dietary and Sports Supplements

HHCM 550 Strategic Planning in Health Care

HNUT 554 Nutrition in Critical Care**

HNUT 571 Sports Nutrition

HNUT 525 Evaluation*

HNUT 556 Advanced Clinical Nutrition**

*Elective for Clinical Nutrition track only.

**Elective for Nutrition Education track only.

Course Schedule

Fall Quarter

HNUT 504 Critical Skills for Online Learning

HHCM 519 Practice Management

HNUT 532 Instructional Design

HNUT 571 Sports Nutrition

HNUT 580 Evaluating Research

HHCM 550 Strategic Planning in Health Care

HNUT 596 Portfolio Evaluation

Winter Quarter

HPTH 501 Practical Statistics

HNUT 505 Professional Communication

HHCM 522 Healthcare Delivery Systems

HHCM 526 Leadership and Management

HNUT 542 Herbs, Dietary and Sports Supplements

HNUT 550 Carbohydrate and Lipid Metabolism

HNUT 556 Advanced Clinical Nutrition

HNUT 596 Portfolio Evaluation

Spring Quarter

HNUT 533 Online Instruction

HNUT 541 Promoting Healthy Lifestyles

HNUT 551 Protein and Energy Metabolism

HNUT 554 Nutrition in Critical Care

HNUT 596 Portfolio Evaluation

Summer Quarter

HNUT 525 Evaluation

HNUT 552 Vitamins and Minerals

HNUT 596 Portfolio Evaluation

Courses Offered

HPTH 501 Practical Statistics 3 q.h.

An introductory graduate course covering basic principles of biometry and applied statistical methods utilizing current computer software.

HNUT 504 Critical Skills for Online Learning 3 q.h.

Introduces students to online learning and provides them with basic skills and knowledge necessary to participate in the distance education environment. Other topics addressed include copyright/trademark issues in the online setting, evaluation criteria for assessing Web site content accuracy, reliability and usability, effective and efficient Internet and online literature database searches, and issues surrounding electronic communication of protected health information.

HNUT 505 Professional Communication 3 q.h.

This course provides you with the skills and techniques to improve the effectiveness for your professional presentations in different health professional settings with an emphasis on different methods to organize a speech, speaking techniques, development of effective PowerPoint and poster presentations, and basic principles of scientific writing. Presentation content will be drawn from coursework completed in HNUT 532 Instructional Design.

HHCM 519 Practice Management 3 q.h.

Practice Management offers the essential elements and support for a successful healthcare practice concentrating on facility management and organizational skills. Topics will include the organizational management landscape and management functions such as planning and decision-making, organizing, staffing, and budgeting. This course will also address practical concerns such as

committees and teams, and human resource management considerations such as training and development, retention and recruitment, and communication. This elective course establishes a foundation for growth and professional opportunity for the health management professional.

HHCM 522 Healthcare Delivery Systems 3 q.h.

The historical evolution of health services provides a backdrop for the core focus of this course: the study of the healthcare system. The curriculum includes an analysis of the current changes in the healthcare environment and the problems affecting the delivery of healthcare in the United States that create a demand for government action. A study of the process of policy formation underscores the complexity and difficulty of government action. Economic and political approaches to health policy analysis will be discussed. The concepts of cost, access and quality will be threaded throughout the course.

HNUT 525 Evaluation 3 q.h.

This course is designed to give you skills and tools used in the evaluation of educational materials, teaching methods and learning outcomes. Designed to enable you to effectively develop and implement the appropriate skills and tools to evaluate the performance of either a nutrition student or employee in both a nutrition education and clinical nutrition setting.

Prerequisite: HNUT 532 Instructional Design or permission of Instructor.

HNUT 532 Instructional Design 3 q.h.

Designed to provide the healthcare professional with educational skills and techniques for the classroom, the individual patient and for continuing education programs. The skills and techniques addressed are: developing teaching outlines to include behavioral objectives and interactive teaching, needs assessment, and educational outcomes, communication and motivational techniques and theories for teaching the adult learner.

HHCM 526 Leadership and Management 3 q.h.

This course is designed to assist the student in developing problem-solving skills, personal and interpersonal effectiveness, and appreciation for others' leadership styles to forge collaborations (i.e., strategic partnering), which are essential to accomplishing the mission and goals of healthcare organizations. Theories of leadership, motivation, power, communication, and conflict management will also be examined and applied. The student will be challenged to develop a profile of him or herself as a leader and create an action plan for leadership development. A personal inventory will set the foundation for planned personal and role change.

HNUT 533 Online Instruction 3 q.h.

Focuses on the practical considerations of planning and developing courses for successful online learning. Topics covered include: Characteristics of distance learners and instructors; course design and development; teaching and tutoring; needs assessment and evaluation strategies; using the World Wide Web in education; and online learning technologies. Students apply what they have learned in development of their own online learning module.

Prerequisite: HNUT 532 Instructional Design or permission of Instructor.

HNUT 541 Promoting Healthy Lifestyles 3 q.h.

Explores health promotion for the individual and the community. This will be accomplished through implementing basic community health concepts of epidemiology, levels of prevention, and risk assessment within the context of health promotion activities. Students will analyze their own personal health promotion needs and selected needs within a chosen community. Based on the standards outlined in *Healthy People 2010*, students will develop health promotion activities for community health problems of their choice based on an assessment of need. Students will develop and track an individual health promotion plan for themselves.

HNUT 542 Herbs, Dietary and Sports Supplements 3 q.h.

Covers the use of herbs, botanicals, vitamins, minerals, and other substances such as caffeine as dietary supplements. Topics include the functions (where known) of the active principle ingredient of the supplement as well as the potential benefits, concerns, and regulatory issues surrounding the use of dietary supplements.

HNUT 550 Carbohydrate and Lipid Metabolism 4 q.h.

An in-depth study of the integration of carbohydrate and lipid metabolism as they relate to the fed, fasted, and re-fed states and to major disease processes.

HHCM 550 Strategic Planning in Healthcare 3 q.h.

A continuation of the topics presented in HNUT 550 Carbohydrate and Lipid Metabolism, starting with protein metabolism and ending with an overview of energy metabolism. Topics to be addressed include protein structure, function, and quality; general properties, kinetics, and mechanisms of action of enzymes; integration of metabolism and the provision of tissue fuels during the fed, fasted, starved, and hypermetabolic states; and the regulation of food intake, body weight/composition and energy metabolism. The latter covers the key components of energy expenditure and methods of measurement.

HNUT 551 Protein and Energy Metabolism 4 q.h.

This course is intended to introduce the student to strategic planning in healthcare organizations. The course content provides an overview of the strategic planning process including the elements required to successfully develop and implement short-term and long-term plans. In addition to application of the elements to a variety of healthcare situations, students will have the opportunity to apply this process to their own educational plan for personal academic success.

HNUT 552 Vitamins and Minerals 3 q.h.

Covers the structure, function, metabolism, requirements, deficiencies, and toxicities of the different vitamins, minerals, trace minerals, and ultra-trace minerals, and fluid and electrolyte balance.

HNUT 554 Nutrition in Critical Care 3 q.h.

An in-depth review of the theory and application of the forms and components of specialized nutrition support in the treatment of various disease conditions.

HNUT 556 Advanced Clinical Nutrition 3 q.h.

A clinical analysis of the pathophysiological and metabolic basis for nutritional management in the prevention and treatment of disease. Critical review and analysis of current recommendations for management, treatment, and prevention of disease will be a primary focus of the course.

Prerequisite: HNUT 550 Carbohydrate and Lipid Metabolism and HNUT 551 Protein and Energy Metabolism.

HNUT 571 Sports Nutrition 3 q.h.

Sports Nutrition focuses on the physiological & metabolic responses of the body to exercise and the role of nutrition in these processes. Macronutrient and micronutrient needs of the athlete and the nutritional needs of special athletic populations will be addressed.

HNUT 580 Evaluating Research 4 q.h.

An introductory graduate course covering fundamentals of the research process with the desired end result being the ability to critically analyze and interpret published research.

HNUT 596 Portfolio Evaluation 3 q.h.

The Master of Science in Nutrition degree focuses on five competency areas: application of nutrition knowledge, teaching nutrition information, demonstration of the processes of critical inquiry and research, application of technology to professional activities, and demonstration of effective professional communication. Achievement of specific learning objectives in these areas of competency will be demonstrated by the student through development of projects during the course of his/her degree program. These artifacts will be part of a required portfolio that will be evaluated by the student and a faculty committee. By the end of the course, students will have compiled a final collection of projects with analysis and reflections for each. Portfolio Evaluation is the final degree requirement and capstone experience for all students in the Master of Science in Nutrition program.

HNUT 590 Thesis Topic Development 2 q.h.

The process of analysis and critique of the literature continues as students integrate the research process into professional practice. Students in the thesis option develop an initial research question and write a brief review of the relevant literature. This document will be expanded and refined in Proposal Development.

HNUT 592 Proposal Development 3 q.h.

Students are guided through the steps necessary for the development of their thesis proposals. Students identify a research problem, develop an appropriate project design, and identify the appropriate methodology for data collection and analysis. This course lays the groundwork for completion of research work and thesis.

HNUT 593 Thesis Research 9 q.h.

Students implement their research proposal through collection, statistical analysis, and evaluation of data. Submission of an acceptable thesis and successful oral defense of research findings by students are the culminating events for both this course and the graduate degree program.

HNUT 594 Data Analysis Laboratory 2 q.h.

Focuses on the use of a computer-based professional statistics software package in applying the concepts learned in HPTH 501. Using this software, students will learn to run a variety of parametric and non-parametric, descriptive and inferential statistical tests such as frequency distributions, measures of central tendency, t-Tests, ANOVA, Mann-Whitney U, Kruskal-Wallis H, repeated measures, and curvilinear correlation statistics for trend analysis. Output sheets of test results will then be evaluated and modified into pivot tables and charts for use in professional presentations. The use and incorporation of data spreadsheets into the statistics program format will also be addressed.

HNUT 502 Fundamentals of Human Nutrition 0 q.h.

This self-directed course provides an in-depth overview of human nutrition including the processes of digestion, absorption, transportation and excretion of food and nutrients: the structure, function, metabolism, requirements, deficiencies, and toxicities of protein, carbohydrate, fat, vitamins, minerals, trace minerals, and ultra-trace minerals; and the fundamental principles of energy metabolism and fluid, electrolyte, and acid-base balance.

HNUT 555 Nutrition Through the Life Cycle 3 q.h.

An in-depth review of the theory and application of the nutritional requirements and concerns of people during the different states of the life cycle.

HNUT 503 Fundamentals of Clinical Nutrition 0 q.h.

This self-directed course provides an in-depth overview of human clinical nutrition including the components and measurement techniques of a nutritional assessment as well as the etiology and medical nutrition therapy of various disease conditions such as obesity; cardiovascular disease; hypertension, osteoporosis; diabetes mellitus (type 1 and type 2); gastrointestinal, renal, neurological, and pulmonary diseases; anemia, sepsis; trauma; cancer; and other metabolic diseases.

Faculty and Associated Staff

Melissa Bernstein, PhD, RD, LD, Assistant Professor
 Hope Bilyk, MS, RD, Clinical Instructor
 Lynn Janas, PhD, Assistant Professor and Chair
 Sandra Salloway, ND, RN, Professor
 Lowell Sherris, MD, MS, Clinical Instructor
 Melanie Shuran, PhD, RD, Professor

Department of Physical Therapy

Doctor of Physical Therapy Program

General Information

The Department of Physical Therapy at Rosalind Franklin University of Medicine and Science considers its primary mission to be the education of generalist practitioners who are eminently qualified to deliver physical therapy services in current and future health care systems. We recognize that many changes have occurred within the past decade and continue to occur in the physical therapy profession and within the healthcare system. These changes, such as managed care and direct access to physical therapy, have altered our interactions with clients and other healthcare providers.

Programmatic Accreditation

To meet the demands of the changing healthcare environment, the Department of Physical Therapy offers a Doctor of Physical Therapy (DPT) degree. This three-year unified and integrated entry-level physical therapy program includes academic, clinical and research components and offers options to explore specialty areas. It is designed to provide an intense, in-depth, and universal view of the profession and its opportunities with an emphasis on critical evaluation and problem-solving skills.

The Doctor of Physical Therapy degree is accredited by the Commission on Accreditation in Physical Therapy Education.

Curricular Objectives

The major curricular goal of the entry-level physical therapy program at Rosalind Franklin University of Medicine and Science is to educate a generalist physical therapist who is able to practice effectively, safely and ethically in any type of healthcare delivery environment. The graduate of the DPT program will have a life-long commitment to professional growth and the potential to develop into a master clinician. The graduate will be able to do the following:

1. Conduct the practice of physical therapy in a professional and ethical manner including the recognition and resolution of clinical and ethical dilemmas.
2. Adapt and practice physical therapy effectively within the framework of the changing healthcare delivery system.
3. Provide evaluation and treatment in a safe, independent and effective manner in order to promote optimal motor function. In achieving this outcome, the physical therapist must be able to:
 - a. Differentiate neuromusculoskeletal disorders from other medical disorders.
 - b. Educate, supervise, delegate and consult with other healthcare professionals, patients and families.
4. Critically evaluate the art, science, and practice of physical therapy and make clinical decisions based on sound theoretical, practical, and empirical evidence.
5. Interact with each client with empathy and understanding of the whole person.
6. Demonstrate potential leadership abilities in all aspects of professional life.
7. Demonstrate the value of physical therapy by contributing to and promoting physical therapy practice, research, education, and the profession's contribution to the healthcare system and to the general community.

Admission Requirements

The Doctor of Physical Therapy Program at Rosalind Franklin University is designed for the self-motivated student who is skilled in critical thinking and willing to be an active participant in group learning situations.

A Bachelor of Arts or Science degree from an accredited college or university is required. The applicant must have a minimum grade of “C” in the prerequisite courses. Courses with a grade below a “C” will not fulfill the prerequisite requirements but will be included in the grade point average.

The required prerequisite courses are:

- One year of college English to include English composition.
- Three courses in the humanities/social sciences to include 1 course of psychology.
- One year each of chemistry, physics and biology (all to include lecture and laboratory). Physics courses must be sequential.
- One course in anatomy/physiology (with laboratory; human anatomy/physiology recommended).
- One course in statistics: must include descriptive and inferential statistics.

At least two-thirds of the science prerequisites should be completed by the time of application. It is recommended that science and psychology courses be taken no more than 10 years prior to application to the Physical Therapy Program. Prerequisite courses must be completed before entrance into the Program.

Applicants must complete the GRE, including the analytical writing portion. We recommend that the GRE be taken before September 1 to meet the December 1 application deadline. A TOEFL examination is required of all foreign applicants from countries in which English is not the native language and who have not attended an American college or university full time for two consecutive years.

An understanding of the profession of physical therapy is expected. All applicants must have worked or volunteered for a minimum of 40 hours in a physical therapy department.

Admission to the program is competitive. Select applicants will be invited to our campus to take the Watson Glaser Critical Thinking Exam and participate in our applicant orientation program. Class members are selected on the basis of academic records, letters of recommendation, interview and scores from required examinations.

Computer literacy is required. Computer software requirements and specifications will be provided upon acceptance.

Applications are available from August 1 until November 15 and must be completed and returned by December 1. Applications are reviewed on an ongoing basis. To ensure that all materials are received by the deadline, we encourage all applicants to send applications and support materials together several weeks before the deadline. Applications received after December 1 will be considered on a rolling basis. Decisions will be made by early March.

Early Acceptance Policy

All completed applications received by October 15 will be considered for early acceptance, up to a maximum of 20 positions. Decisions will be made by early January. Applicants who are not accepted under this policy will be considered for regular acceptance.

Graduation Requirements

1. A minimum of 160 quarter hours of graduate credit is required. Students are expected to successfully complete all of the required didactic and clinical course work (136 quarter hours) as well as 24 hours of specialty electives.
2. Students must maintain a grade point average of 2.0.
3. Each student must successfully complete the Research Portfolio.

Curricular Components

First Year

Summer Quarter

MCBA 501 Clinical Anatomy 10 q.h.

This course introduces the student to the critical analysis of structure and function as they relate to selected body systems. Students will have the opportunity to dissect a human cadaver. Prerequisite: Enrollment in Physical Therapy Program.

HPTH 618 Orientation to Physical Therapy 3 q.h.

This course will explore the healthcare delivery system in general as well as the history of physical therapy, ethical and legal aspects of practice, the current practice of physical therapy in relation to other health services and the PT as practitioner, leader, educator, researcher and critical thinker. Prerequisite: Enrollment in Physical Therapy Program.

HPTH 619 Principles of Education 1 q.h.

This course introduces students to the teaching and learning process. Students will have the opportunity to write learning objectives, develop content, select teaching methods, and develop and evaluate a learning experience for classmates. Prerequisite: Enrollment in Physical Therapy Program.

Fall Quarter

HPTH 620 Clinical Skills I 5 q.h.

The emphasis of Clinical Skills I is on the management of the total patient, including the patient's direct needs and related physical therapy responsibilities. Topics include written communication, referral services, emergency care, thermotherapy, cryotherapy, ultrasound, patient handling skills, transfers, gait training, and massage. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 622 Critical Inquiry I 4 q.h.

Students are introduced to the elements of thought and the logic of critical thinking. Measurement theory and principles as applied to physical therapy practice and research are studied. The role of the researcher in professional practice is examined. Principles and application of scientific inquiry are emphasized. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 623 Practice Issues I 1 q.h.

This course is an introduction and orientation of the clinical education process and philosophy within the entire curriculum. Requirements and expectations from clinical faculty are discussed. Professional behavior and clinical decision making are introduced. Evaluation of self, the clinical setting, and clinical faculty is defined. Effective professional communication skills are practiced. Investigation, planning and selection of Summer Quarter Module 5 clinical experience Clerkship I is completed. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 625 Body Systems I 5 q.h.

The structural and functional organization of the cardiopulmonary, circulatory and body defense systems in health and disease throughout the life span are presented. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 626 Body Systems II 5 q.h.

The structural and functional organization of the integumentary, gastrointestinal, urogenital, endocrine and metabolic, muscular and peripheral nervous systems in health and disease throughout the life span are presented. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HMTD 500 Interprofessional Healthcare Teams 1 q.h.

This course is an experiential learning opportunity for all students at Rosalind Franklin University of Medicine and Science to learn about a collaborative model of care. The students will interact in healthcare teams focusing on patient-centered care emphasizing evidence-based practice, quality improvement strategies and informatics. Prerequisite: Enrollment in DPT program.

Winter Quarter**HPTH 630 Clinical Skills II 3 q.h.**

This course introduces basic physical therapy examination, evaluation, and interventions skills. The student will begin to formulate goals and an intervention plan based on examination results. Clinical examination, evaluation, and intervention principles including range of motion and muscle testing, neurologic assessment, orthopedic special tests, therapeutic exercise, documentation, and posture will be studied. Specific examination, evaluation, and intervention skills for the joints of the upper extremity will be presented. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 631 Clinical Skills III 3 q.h.

This course continues with the examination, evaluation, and intervention principles introduced in Clinical Skills II. Specific examination, evaluation, and intervention skills for the joints of the lower extremity and spine will be presented. The student will also study pathological gait, posture, and aquatherapy. This course emphasizes comprehensive physical therapy case management including integration of previous Clinical Skills courses. The student will have the opportunity to examine and develop care plans for various patients. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 634 Orthopedic Clinical Medicine 3 q.h.

Students study orthopedic/musculoskeletal disorders that are commonly addressed by physical therapists. Course material presented includes etiology, pathology, clinical manifestations, and medical and surgical treatment. This medical course is presented in sequence with clinical evaluation and treatment planning coursework. Case studies will be used to integrate material from these courses. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 635 Kinesiology/Motor Control I 3 q.h.

Principles of tissue mechanics, muscle mechanics, and principles and theories of motor control are presented, along with methodology for static and dynamic analysis of movement. This information is applied to the prevention and rehabilitation of neuromusculoskeletal disorders. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 636 Kinesiology/Motor Control II 4 q.h.

Principles and concepts of kinesiology are applied to the study of normal human movement, osteokinematic and arthrokinematic joint motion, surface anatomy, and muscular control of limb segment motion. These concepts are integrated with principles and theories of motor learning and motor control within the context of simple and complex motion analysis for joints of the extremities and spine. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

Spring Quarter**HMTD 551 Leadership in the Health Care Environment 3 q.h.**

This course will enable students to develop an understanding of the complex nature of health care facility problems and learn a systematic approach to problem resolution through the group problem solving process. This is an interdisciplinary course, taught in conjunction with the other programs of the College of Health Professions.

HPTH 640 Clinical Skills IV 5 q.h.

This course examines a variety of evaluation and treatment techniques used in patient management. Emphasis is on the neurological aspect of dysfunction. Basic concepts and clinical application of electrotherapy are introduced. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 642 Critical Inquiry II 3 q.h.

Descriptive and inferential statistics with relevance to physical therapy research will be discussed. Instruction includes the use of the computer for statistical analysis. The students will have the opportunity to use statistics for a small pilot study. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 643 Practice Issues II 1 q.h.

This course continues the investigation of clinical education issues and process. Final plans and requirements for the first clinical experience Clerkship I are defined. Professional behaviors are further explored. Evaluation requirements of self, clinical setting, and clinical faculty are explored. Effective professional communication skills are practiced. Investigation, planning, and selection of Winter Quarter Module 7 Clerkship II is completed. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 644 Neurological Clinical Medicine and Pharmacology 3 q.h.

Students study the medical and pharmacological aspects of neurological disorders that are commonly treated by physical therapists. The course is coordinated with Neuroscience and Clinical Skills IV to enable students to examine the structural and functional aspects of the neurological system in tandem with discussion of neurological disorders such as multiple sclerosis, Parkinson's disease, and cerebral vascular accidents. Topics include the etiology, pathology, clinical manifestations, and medical, surgical and pharmacological management. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

MNSC 501 Neuroscience 5 q.h.

This course examines the structure and function of the human nervous system, including the principles of cellular organization and communication. The mechanisms responsible for and the consequences of neurological disease will be analyzed. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

Second Year**Summer Quarter****HPTH 717 Clerkship I 6 q.h.**

This is a six-week full-time clinical experience in which the student will participate in a clinical setting with the opportunity for the application of previous didactic learning and professional socialization. This is an orientation to the clinical practice of physical therapy with participation in patient care activities, professional collaboration, professional operations and communication skill development. Students will practice the principles of case reporting, case documentation and medical chart review. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

Fall Quarter**HPTH 720 Clinical Skills V 3 q.h.**

In this course, the students integrate and apply various evaluation and treatment approaches for the patient who exhibits neuromusculoskeletal dysfunction. Manual therapy treatment techniques are presented. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 721 Clinical Skills VI 4 q.h.

In this course, students integrate, apply and justify various examination and intervention approaches for the patient who exhibits neuromuscular dysfunction. Synthesis of knowledge is emphasized for refinement and modification of assessment and intervention of the complex patient through case studies. Electrotherapeutic principals and application for the complex patient are examined. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 722 Critical Inquiry III 2 q.h.

This course completes the Critical Inquiry sequence. Students will review the various research designs. This course will also prepare students for Clerkship II where they will write a case report. Students will have the opportunity to write and present their research project from year 1. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 724 Advanced Clinical Medicine and Pharmacology 5 q.h.

Clinical medicine topics are integrated with neuromusculoskeletal treatment. Incorporating case studies, the student learns to differentiate between those conditions appropriate for physical therapy intervention and those that require referral to other medical specialists. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 725 Advanced Regional Anatomy 2 q.h.

Students will examine in-depth the anatomy of various joint regions of the human body. Anatomical images of normal and pathological conditions will be analyzed. Discussions and integration of previous coursework with skeletal models, dissections, and/or prosections will be used to improve understanding of normal and abnormal function. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

Winter Quarter**HPTH 737 Clerkship II 12 q.h.**

This is a full-time experience for ten weeks in one or more selected clinical practice settings. It is a supervised experience with the opportunities to synthesize and apply previous learning. Time management skills, ethical decision making, and integration of assessment and goal setting will be emphasized. Incorporation of increasingly varied and adaptable approaches to treatment will be employed. The student is expected to project and predict outcomes of intervention, and determine the value of various health care services for the existing or potential problems of the patient. A patient-centered case study project will be designed and conducted. Presentation of this research activity will be in Quarter Module 9. The student will begin to explore healthcare arenas and begin to define interests

for culminating clinical experiences. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

Spring Quarter**HPTH 740 Clinical Skills VII 3 q.h.**

The student will further synthesize and analyze the rehabilitation of neuromuscular dysfunction. The emphasis will be on psychosocial issues and modification of interventions. Topics include geriatrics, women's health, lymphedema, oncology, abuse, and preventive behaviors. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 741 Pediatric Physical Therapy 4 q.h.

Advanced patient evaluation and treatment planning skills will be synthesized in reference to the pediatric client. Emphasis will be directed to specific pediatric case studies. The course will include embryology and normal and abnormal development from ages 0–18. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 742 Physical Therapy in the Critical Care Sector 2 q.h.

A series of lectures will be presented that focus on patients with illnesses requiring critical care, who have multi-system dysfunction, including discussion of examination, evaluation, intervention and outcome strategies within different environments along the continuum of care. The course will also include laboratory sessions to refine patient handling skills and skills related to burn and wound interventions. This course will cover the following topics: Infection Control, OSHA's Bloodborne Pathogen & Hazardous Communication Standards, Clinical Emergencies, Patient Care in the ICU, Organ Transplantation, Renal Dialysis, Burn & Wound Care, and Grieving, Loss & Hospice. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 743 Practice Issues III 1 q.h.

This course analyzes clinical experiences from Clerkship I and II. Clinical problems and solutions will be discussed. Ethical dilemmas are addressed. Students will practice effective verbal and nonverbal communication skills. Investigation, design, and selection of clinical experience, Clerkship III, Quarter Module 10, Fall Quarter. Planning, design, and investigation for Clerkship IV, Winter or Spring quarters, Year III are initiated. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 744 Prosthetics/Orthotics 3 q.h.

The principles of prosthetic and orthotic management will be discussed with emphasis on examination, evaluation, intervention and appropriate referral. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 745 Cardiovascular and Pulmonary Physical Therapy 4 q.h.

This course is a case-based approach to evaluation and treatment of clients with cardiovascular and pulmonary dysfunction. Treatment interventions taught in this course include mobilization, body positioning, ventilatory strategies, breathing control, coughing and airway clearance maneuvers, and manual techniques. Patient education and patient driven treatment planning are fundamental concepts included in this course. Interventions for treatment are correlated to patient examination and evaluation. Discharge planning will be incorporated. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 746 Special Topics in Physical Therapy 1 q.h.

This course will provide information regarding specialized topics of rehabilitation. Management of chronic pain will be described through methods within the scope of physical therapy and within the medical model. Students will also be discussing specialized issues related to the following specific topics: management of patients with chronic pain, and those with symptom magnification behavior; upper cervical spine evaluation following acute trauma; components of footwear; ACL reconstruction techniques and appropriate rehabilitation protocols; management of patients with postural abnormalities and scoliosis, and principles of management of patients in a work condition program.

Third Year**HPTH 823 Practice Issues IV 2 q.h.**

This on-campus course concludes the planning and negotiation of the final culminating Clerkship (PT 937) and Professional Practicum (PT 948) experience in the Winter and Spring Quarters of the third year. During the Summer Quarter (Module 9), the student is expected to perform independent work and foster communication with his/her academic advisor and project supervisor to negotiate and finalize the Professional Practicum project. The student will orally present a professional poster describing the case study research project from Clerkship II. The presentation of these studies may also be expected in January at the University Sigma Xi session or at another professional society meeting. Site selections for Clerkship IV will be completed. Guest lectures discussing review techniques for state licensure examinations, resume writing and interviewing, current professional and legislative issues, and current trends in rehabilitation may be presented. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 827 Clerkship III 10 q.h.

This is a 10 week, full-time, first culminating experience in one or more selected clinical practice settings. It is a supervised experience with the opportunities to synthesize and apply previous learning. The student is expected to be a mature, self-directed learner and demonstrate increasingly competent behaviors in professional interaction, communication, consultation, and management. Time management, ethical decision making, and integration of assessment and goal setting will be emphasized. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 837 Clerkship IV 12 q.h.

This is a 12-week, full-time experience in one or more selected clinical practice settings. It is a supervised experience with the opportunities to synthesize and apply previous learning. The student is expected to be a mature, self-directed learner and demonstrate increasingly competent behaviors in professional interaction, communication, consultation, and management. Time management, ethical decision making, and integration of assessment and goal setting will be emphasized. The student may have negotiated and designed this clinical experience. The clinical work will be conducted or monitored by an experienced clinician, or perhaps a Certified Clinical Specialist, in the area of interest of the student. The student will be expected to complete all assignments of the clinical site, and to complete all previous research competencies. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 848 Professional Practicum 12 q.h.

The purpose of this course is to give students the opportunity to experience alternative roles in the areas of administration, critical inquiry (research), education, or healthcare policy. The administration area of study emphasizes the process of planning, evaluating, and managing human and financial resources. The critical inquiry area of study emphasizes the process of applying the principles of scientific methods to a research project. The education area of study emphasizes the process of planning, delivering, and evaluating teaching activities. The healthcare policy area of study emphasizes the formulation, legislative process, implementation, and analysis of new and existing healthcare policy. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 843 Practice Issues V 1 q.h.

This two week seminar includes guest presentations, student presentations, faculty panels, University awards, and concludes in the graduation ceremony. It occurs at the end of Spring Quarter, Year 3. Students will present their experiences and activities from PT 948, Professional Practicum. Students will correlate and assemble all documents required for the faculty to approve their completion of degree requirements. Faculty advisors must be consulted on an individual basis for exit information. Students will also meet with their research portfolio adviser to finalize the portfolio's components. The students will also meet with representatives from the financial aid office to discuss necessary procedures and topics prior to graduation. Guest lectures discussing current professional and legislative issues and practice trends in rehabilitation will be presented. Students will have the opportunity to participate in the National Physical Therapy Examination preparation course. Students will evaluate the curriculum at this culminating point. Prerequisite: Satisfactory completion of all previous courses in DPT program or approval of faculty.

HPTH 500 Zero Hour Registration (0 q.h.)

A course designation for students pursuing individual academic activities.

Post-Professional Doctor of Physical Therapy Program

General Information

Recently, rapid and pervasive changes have occurred in the healthcare environment due to managed care. Physical therapists must possess the knowledge, skills and attitudes for effective, quality patient care in our highly competitive environment where diagnosis, evidence-based practice, cost constraint and increased productivity are all considered essentials. Recognizing recent healthcare changes, the APTA has developed the APTA 2020 Vision Statement encouraging physical therapists to meet the challenges of current and future healthcare practice as independent doctorally trained practitioners.

As a University and department committed to the mission of educating healthcare practitioners to their highest level, the Department of Physical Therapy has developed a transition doctorate in physical therapy to assist practicing physical therapists to augment their previously acquired knowledge with coursework focused toward future practice trends. The Post-Professional Doctor of Physical Therapy program is designed for the self-motivated, licensed physical therapist wishing to maximize their learning time in a non-traditional environment. The program is intended to augment knowledge, skills and behaviors from the clinician's professional education, to promote practice, to refine professional leadership skills, and to advance scientific inquiry skills commensurate with contemporary and future practice trends. The program is offered as an online, distance program with no campus attendance required.

Student Outcomes

In conjunction with the Department of Physical Therapy mission statement, the overall goal of the Post-Professional Doctor of Physical Therapy (PDPT) program is to provide practicing clinicians with the opportunity to augment their previously acquired patient care knowledge, skills and abilities, to engage in societal and professional leadership and to pursue scientific inquiry and scholarly activity commensurate with contemporary and future practice trends.

Specifically, graduates will:

- Recognize and respond to economic and market trends in the delivery of physical therapy services to diverse populations.
- Negotiate and advocate for physical therapy services within health delivery systems (e.g., reimbursement, legal and ethical issues, regulatory standards, outcomes, and resources), throughout the continuum of care.
- Contribute to processes that generate evidence and consensus about the efficacy and effectiveness of physical therapy practice.
- Practice as a first-contact practitioner in the delivery of care throughout the life span.
- Be an influential leader in shaping policy related to healthcare systems and organizations.
- Integrate the cultural and socioeconomic and biopsychosocial factors that impact the management and delivery of physical therapy services.
- Service the public as the primary resource, educator, and consultant regarding physical therapy-related health, prevention, and wellness information.

- Serve as a professional role model, educator and mentor for healthcare providers, students and others.
- Progress along the continuum of practice toward becoming a master clinician.
- Contribute to the body of knowledge of physical therapy practice by participating in the ongoing development of classification systems, examination procedures, screening tools, and evidence-based practice interventions.
- Collect and analyze data on management systems to enhance outcomes of PT services.
- Provide leadership in the healthcare delivery system for ethical, professional and legal physical therapist practice.
- Refer to appropriate medical practitioners.

Admission Procedures and Requirements

The Post-Professional Doctor of Physical Therapy program at Rosalind Franklin University of Medicine and Science is designed for the self-motivated physical therapist wishing to maximize their learning time in a non-traditional environment.

Requirements for application are:

1. The student must hold a Bachelor of Science in Physical Therapy or a Bachelor of Science and a Certificate in Physical Therapy from an APTA accredited physical therapy program.
2. The student must have a minimum cumulative grade point average of 2.5 on a 4.0 scale.
3. The student must provide official transcripts from all colleges and universities attended.
4. The student must furnish two official letters of recommendation from individuals who were involved in the student's previous educational, clinical or work experience or their current employment.
5. Student must hold a license to practice physical therapy in the United States and provide a copy of this license.
6. Students from institutions outside the United States must have had their international credentials evaluated prior to taking their licensure examination. They must be licensed and practicing in the United States.
7. The TOEFL examination is required of all foreign applicants from countries in which English is not the native language and who have not attended an American college or university full time for two consecutive years.

Students can petition to receive additional credit by showing evidence of the successful completion of coursework, clinical specialization, or related experience.

Admission to the program is competitive. Class members are selected on the basis of academic records, application, and letters of recommendation. Applications are reviewed on an ongoing basis.

Computer literacy is required. Computer software requirements and specifications will be provided upon acceptance.

Requirements for the Degree:

- 42 quarter hours
- A Comprehensive Project
- A GPA of 3.0 or better

Curricular Components

Program of Study

The program of study includes both required and elective elements, which must total 42 quarter hours. The faculty recommends taking two courses per quarter in order to finish in a timely fashion, however, the student may select additional courses as appropriate. The program is structured to include learner-focused activities delivered primarily through a distance education experience. Both computer-based and mail-based formats will be utilized. A typical program of study is as follows:

Year 1

Fall

- Critical Skills in Cyberspace (3 credits)
- Evidence-Based Practice (3 credits)*

Winter

- Measurement (3 credits)
- Anatomical Imaging (3 credits)*

Spring

- Nutrition (3 credits)
- PT Examination: Screening for Disease (3 credits)*

Summer

- Pharmacology (3 credits)*
- Advanced Practice Course (3 credits)*
- Exercise Physiology (3 credits)

Year 2

Fall

- Healthcare Delivery (3 credits)*
- Leadership (3 credits)

Winter

- Alternative Medicine (3 credits)
- Pain (3 credits)

Spring

- Clinical Biomechanics (3 credits)
- Management (3 credits)

Electives

Independent Study (var. credits)

Statistics (3 credits)

Clinical Practicum (6 credits)

Research Practicum (6 credits)

Administration Practicum (6 credits)

Education Practicum (6 credits)

Critical Skills in Cyberspace (3 credits)

Computer Applications (3 credits)

* Required Course

Course Descriptions

HPPT 500 Statistics 3 q.h.

Basic principles of biometry and applied statistical methods using current computer software.

HNUT 504 Critical Skills in Cyberspace 3 q.h.

Introduces the student to Internet browsing software. Skills emphasized include “surfing” the Internet, evaluating World Wide Web sites, basic Web site design and development, completing effective Internet and online literature database searches and reviewing health related Web sites.

HPPT 506 Evidence Based Practice 3 q.h.

An introduction to the utilization of best evidence in the practice of Physical Therapy. After covering the development of clinical questions, the course moves into how to identify databases and use searching strategies to find evidence. Finally, it covers the application of the evidence in the clinical practices setting.

HPPT 521 Management 3 q.h.

A course covering an overview of the planning, controlling and evaluating process for managers. The self-study materials will concentrate on the use of management objectives in the planning, controlling and evaluation process.

HHCM 522 Health Care Delivery 3 q.h.

The historical evolution of health services provides a backdrop for the core focus of this course: the study of healthcare regulation. The curriculum includes an analysis of the current changes in the healthcare environment and the problems affecting the delivery of healthcare in the United States that create a demand for government action. A study of the process of policy formation underscores the complexity and difficulty of government action. Economic and political approaches to health policy analysis will be introduced with a particular focus on contrasting 'competitive' and 'regulatory' approaches to the resolution of health policy problems. A course designed to introduce the student to the current structure of the health care delivery system and its impact on physical therapy services.

HCLS 532 Instructional Design 3 q.h.

A course designed to aid with planning, implementing and evaluating academic courses, as well as in-service programs. Methods and models for design and realistic evaluation models, as well as criteria and selection of audiovisual aids are included.

HNUT 540 Nutrition 3 q.h.

A course covering a broad range of the theory and application of nutritional support in the treatment of disease. Included is the importance of nutritional health promotion and the role of vitamins, minerals and other bioactive substances.

HPPT 700 Alternative Medicine 3 q.h.

A course exploring the history, theory and scope of practice of alternative and complementary health therapies, including Chinese Medicine, Tai Chi, yoga and acupuncture.

HPPT 720 Physical Therapy Examination: Screening for Disease 3 q.h.

This course introduces the students to screening patients for medical disease. The students will learn screening methods for identifying possible general health and/or system dysfunctions. Students will interpret and evaluate information gathered and decide whether physical therapy intervention is appropriate and/or the need for further referral.

HPPT 732 Anatomical Imaging 3 q.h.

This course covers basic principles and interpretation of imaging modalities as they apply to the field of physical therapy. The emphasis is on plain film radiography and how you can benefit as a physical therapist from an increased understanding of these images. Other types of imaging such as Magnetic Resonance Imaging (MRIs) and Computed Tomography will also be introduced, but the scope of this course will be directed towards plain film radiography.

HPPT 742 Measurement 3 q.h.

A course designed to help students understand the principles of measurement theory as applied to physical therapy. Opportunity to explore the reliability and validity of measurement instruments of their choice.

HPPT 745 Computer Applications 3 q.h.

Introduces the student to basic skills required to use word processing, presentation, and spreadsheet software packages. A partial list of topics addressed in the course include: Word processing software: document handling, formatting tables, inserting objects; presentation software: creating slides and handouts, formatting, transitions, inserting objects; spreadsheet software: data entry and formatting, formulas, creation of charts, tables, and graphs. These skills are taught through the completion of self-instructional, computer-based assignments.

HPPT 751 Clinical Biomechanics 3 q.h.

A course examining the structure and function of the various connective tissues that comprise human articulations. Principles of biomechanics and kinetics. Clinical relevance of connective tissue and joint mechanics as related to functional activities will be included.

HPPT 753 Exercise Physiology 3 q.h.

A course covering the acute and chronic effects of exercise and training on cellular function, energy production, enhancement of energy capacity as well as the function of the cardiovascular, pulmonary, musculoskeletal and nervous systems.

HPPT 662 Topics in Pain 3 q.h.

An online course that provides a comprehensive overview of the multidimensional phenomenon of pain, to include: definitions; terminology; ethical considerations; contemporary research; theoretical foundations (philosophical, cultural, psychological, spiritual, anatomical, and neurophysiological); assessment; prevention; and holistic and collaborative management of pain with emphasis on the role of the physical therapist.

HPPT 870 Independent Study 3 q.h.

An individualized independent learning experience which may include, but not be limited to the following:

1. Summary of the literature on a special topic
2. Specialized study of clinical techniques in an area of special emphasis
3. Special objectives and treatment for a particular patient group.

HPPT 880 Practicum 6 q.h.

An intensive internship experience in the student's local area. May be clinical, research, administrative or educational in nature.

HPPT 699 Zero Hour Registration 0 q.h.

A course designation for students pursuing individual academic activities.

HPPT 722 Advanced Clinical Practice 3 q. h.

Is a required experience in the curriculum. It deals with best practices as identified in the *Guide to Physical Therapy Practice*. Specific sections include physical therapy practice and management of patients with impairments in the Cardiovascular and Pulmonary, Neurological, Musculoskeletal and Integumentary Systems. In addition cutting edge Wound Care and Lymphedema interventions are presented.

The culmination of the course is an on-campus weekend in which students prepare case studies in one of the areas and present back to the class to demonstrate best practice and evidence based examination and intervention. Emphasis is on the integration of research and evidence in the area of study. The core physical therapy faculty serve as discussants for the case studies in their particular area of expertise. A culminating lecture, which integrates the multi-system examination, is required and students practice the advanced manual and problem-solving skills required for clinical practice.

Master of Science Program in Physical Therapy

The purpose of the Master of Science Program in Physical Therapy is to prepare future leaders of the profession. Leaders with advanced knowledge, research skills and clinical competencies are needed in education and in the organization and delivery of physical therapy services. The program at Rosalind Franklin University of Medicine and Science provides opportunities for physical therapists to interact in an intellectual atmosphere where they can rigorously and objectively examine all aspects of professional practice. The graduate program is designed to foster a high level of skill in the inquiry process, increase the depth of knowledge in a student-selected aspect of physical therapy, enhance techniques for life-long self-education and promote dedication to the advancement of physical therapy. It is hoped that the graduate will contribute significantly to the healthcare system and society.

Admission Procedures and Requirements

Requirements for application are:

1. The student must have graduated from an approved school of physical therapy and be eligible for licensure in the State of Illinois.
2. The student must have a minimum grade point average of 2.5 on a 4.0 scale.
3. The student must furnish three letters of recommendation from individuals who were involved in the student's previous educational and clinical experience.
4. A personal interview with a faculty member in the department of physical therapy is required.
5. A TOEFL exam score within the last two years is required if you are a foreign applicant who is from a foreign country where English is not the primary language, and you have not attended a university/college in the U.S. for two consecutive years.
6. Students from institutions outside the United States must have an international credentials evaluation sent from a U.S. Evaluation Agency.

Requirements for the Degree

1. A minimum of 40 quarter hours of graduate credit is required. Students are expected to complete required core courses as well as specialty courses.
2. Each degree candidate must complete and successfully defend a research project.
3. The student must maintain an overall grade point average of 3.0 (B).

Curricular Components

Program of Study

The program of study includes three components: core courses, specialty courses and a master's thesis. Classes meet one day per week to meet the needs of the part-time student who must maintain employment. Several courses will be offered each quarter depending on the availability of faculty. The program is intended to be completed in a total of 7 quarters. The faculty recommends that the student takes two courses per quarter in order to finish in a timely fashion. A student may elect to take a more flexible program, however, they are reminded that not all required courses are offered every year. If a student wishes to declare a specialty, a minimum of 3 courses must be chosen from that specialty area.

Required Coursework (minimum 10 quarter hours)

- HPTH 502 Physical Therapy Seminar (1)**
- HNUT 520 Leadership Skills (3)**
- HPTH 506 Educational Issues (3)**
- HNUT 512 Health Care Delivery (3)**

Required Coursework Research (minimum 9 quarter hours)

- HPTH 516 Measurement in Physical Therapy (3)**
- HPTH 517 Critical Inquiry I (3)**
- HPTH 518 Critical Inquiry II (3)**

Required Coursework — Master's Thesis (minimum 9 quarter hours)

- HPTH 559 Master's Thesis (3)**

Coursework — Specialty (minimum 9 quarter hours)

Orthopedic Specialty

- HPTH 550 Regional Dissection of the Human Body (Var)**
- HPTH 551x Clinical Biomechanics (3)x**
- HPTH 553 Exercise Physiology & Nutrition (3)**
- HPTH 554 Advanced Approaches to Manual Therapy (3)**
- HPTH 560 Journal Club (1)**
- HPTH 562 Pain (3)**
- HPTH 570 Independent Study (Var)**

Neurological Specialty

- HPTH 550 Regional Dissection of the Human Body (Var)**
- HPTH 553 Exercise Physiology (3)**
- HPTH 560 Journal Club (1)**
- HPTH 561 Advanced Neurological Physical Therapy (3)**
- HPTH 562 Pain (3)**
- HPTH 570 Independent Study (Var)**

Education/Administration Specialty

- HPTH 505 Problem Solving Techniques for the Physical Therapist (3)**
- HPTH 507 Management by Objectives (1)**
- HPTH 508 Communication Techniques/Group Dynamics (2)**
- HPTH 509 Analyzing and Improving Performance (2)**
- HPTH 510 Evaluating Clinical Competence (3)**
- HPTH 514 Administration Seminar (2)**
- HPTH 515 Education Seminar (1)**
- HPTH 575 Teaching Internship (Var)**

General Electives

- HPTH 511 Financial Management (3)**
- HPTH 556 Cardiopulmonary Physical Therapy (3)**
- HCLS 680 Fundamentals of Epidemiology (3)**
- HPTH 580 Rasch Analysis (1)**
- HPTH 585 Research Techniques (Var)**

Course Descriptions

Required Courses

HPTH 502 Physical Therapy Seminar 1 q.h.

Research on selected physical therapy topics will be reviewed and discussed with emphasis on critical evaluation of the published literature.

HNUT 520 Leadership Skills for Supervisors 3 q.h.

This graduate course is designed to provide the clinical supervisor with theory and skills in areas of leadership, management, communication, motivation, interviewing, discipline and legal guidelines. The student will develop skills through lecture, discussion, group projects and case studies.

HPTH 506 Educational Issues 3 q.h.

Designed to aid with planning, implementing and evaluating courses, as well as in service programs. Methods and models for design and realistic evaluation models, as well as criteria and selection of audiovisual aids are included.

HNUT 512 Health Care Delivery 3 q.h.

Introduction to the current structure of the healthcare delivery system and its impact on physical therapy services.

HPTH 516 Measurement in Physical Therapy 2 q.h.

Designed to help students understand the principles of measurement theory as applied to physical therapy. Opportunity to explore the reliability and validity of measurement instruments of their choice.

HPTH 517 Critical Inquiry I 3 q.h.

Fundamentals of the research process with the opportunity to develop a research proposal.

HPTH 518 Critical Inquiry II 3 q.h.

Basic principles of biometry and statistical methods with applications to current computer software.

HPTH 599 Master's Project (Credit Hours to be Arranged)

An individual research topic with the approval of the major advisor. An in-depth study to include identification of a problem, sample selection, data collection, data processing, research design, evaluation and conclusions.

Orthopedic Electives**HPTH 550 Regional Dissection of the Human Body (Hours and Units of Credit to be Arranged)**

Designed for students who wish to pursue a detailed study of the gross anatomy of specific areas of the human body. Orthopedic specialty students focus on joint or spinal anatomy. Dissections will be supervised and special reading assignments will be made. A laboratory fee will be based upon the number of students registered and the region(s) of the body to be studied. Prerequisite: Gross Anatomy.

HPTH 551 Clinical Biomechanics of the Musculoskeletal System 3 q.h.

Examination of the structure and function of the various connective tissues that comprise human articulations. Principles of biomechanics, and arthrokinematics of selected regional articulations. Clinical relevance of connective tissue and joint mechanics as related to functional activities.

HPTH 553 Exercise Physiology & Nutrition 3 q.h.

Acute and long-term effects of exercise on the function of the major organ systems of the body. Emphasis is placed on the cardiorespiratory, musculoskeletal, and nervous systems. State-of-the-art assessment techniques and the application of the results to the development of prescribed programs for 1) the enhancement of physical fitness in adults and 2) specialized training of athletes. Lecture/lab.

HPTH 554 Advanced Approaches to Manual Therapy 3 q.h.

Designed to explore and practice some of the advanced approaches in manual therapy, such as joint mobilization, craniosacral therapy, myofascial release, or other techniques. Lecture/lab.

HPTH 560 Journal Club 1 q.h.

Current topics of the designated area will be selected from approved journals. Students will choose an approved topic, do the necessary library research, and arrange a presentation, complete with a lecture outline and references. Alternatively, guest lecturers speak on special topics. Lecture/discussion format.

HPTH 562 Pain 3 q.h.

Comprehensive overview of the multidimensional phenomenon of pain; to include definitions, terminology, ethical considerations, contemporary research, theoretical foundations (philosophical, cultural, psychological, spiritual, anatomical and neurophysiological), assessment, prevention, and holistic and collaborative management of pain with emphasis on the role of the physical therapist.

HPTH 570 Independent Study 2 q.h.

Independent learning may include, but not be limited to the following:

- a. Review of literature.
- b. Clinical study in the student's area of interest.
- c. Additional anatomical dissection of special emphasis.
- d. Field experience with clinical mentor.
- e. Special evaluation and treatment for a particular patient group.

Neurological Electives**HPTH 550 Regional Dissection of the Human Body (Hours and Units of Credit to be Arranged)**

Designed for students who wish to pursue a detailed study of the gross anatomy of specific areas of the human body. Dissections will be supervised and special reading assignments will be made. A laboratory fee will be based upon the number of students registered and the region(s) of the body to be studied. Prerequisite: Gross Anatomy.

HPTH 553 Exercise Physiology & Nutrition 3 q.h.

Acute and long-term effects of exercise on the function of the major organ systems of the body. Emphasis is placed on the cardiorespiratory, musculoskeletal, and nervous systems.

State-of-the-art assessment techniques and the application of the results to the development of prescribed programs for 1) the enhancement of physical fitness in adults and 2) specialized training of athletes. Lecture/lab.

HPTH 560 Journal Club 1 q.h.

Current topics of the designated area will be selected from approved journals. Students choose an approved topic, do the necessary library research and arrange a presentation, complete with a lecture outline and references. Alternatively, guest lecturers will speak on special topics. Lecture/discussion format.

HPTH 561 Advanced Neurological Physical Therapy 3 q.h.

A didactic and practical course presenting advanced theories of current neurological approaches designed to maximize clinical skills in the treatment of the neurological patient.

HPTH 562 Pain 3 q.h.

Comprehensive overview of the multidimensional phenomenon of pain; to include definitions, terminology, ethical considerations, contemporary research, theoretical foundations (philosophical, cultural, psychological, spiritual, anatomical and neurophysiological), assessment, prevention, and holistic and collaborative management of pain with emphasis on the role of the physical therapist.

HPTH 570 Independent Study (Credit Hours to be Arranged)

Independent learning may include, but not be limited to the following:

- a. Review of literature.
- b. Clinical study in the student's area of interest.
- c. Additional anatomical dissection of special emphasis.
- d. Field experience with clinical mentor.
- e. Special evaluation and treatment for a particular patient group.

Education/Administration Electives**HPTH 505 Problem-Solving Techniques for the Physical Therapist 3 q.h.**

Techniques to identify and solve problems and develop skills for improved management and group dynamics.

HPTH 507 Management by Objectives — Independent Study Elective 1 q.h.

An overview of the planning, controlling and evaluating process for managers. The self-study will concentrate on the use of management objectives in the planning, controlling and evaluation process.

HPTH 508 Communication Techniques and Group Dynamics 2 q.h.

Designed for the management-education student in order to provide an overview of communication techniques, counseling skills, interviewing techniques and the psychology of groups and group dynamics.

HPTH 509 Analyzing and Improving Performance 2 q.h.

Designed for the manager-educator as an in-depth study of motivation as it relates to students and employees. Theories and techniques for motivating problem students and employees. Discipline and related legal issues are covered.

HPTH 510 Evaluating Clinical Competence 3 q.h.

Designed to provide the manager-educator with in-depth skills in evaluation of performance. Written testing, evaluation based on performance objectives and related assessment and evaluation skills.

HPTH 514 Administration Seminar 2 q.h.

A discussion group covering selected topics in administration. Journal articles are reviewed and discussed.

HPTH 515 Education Seminar 1 q.h.

A discussion group covering current topics in literature related to education of allied health professionals.

HPTH 575 Teaching Internship**(Hours and Credit to be Arranged)**

An opportunity to actively participate in a course within the PT Department under the guidance of the course instructor. Experiences may include lecture design and implementation, exam construction, lab assisting, or other appropriate activities based on the course requirements and preferences of the instructor.

General Electives**HPTH 511 Financial Management****(Formerly Essentials of Business) 3 q.h.**

An overview describing major components of an operational budget, factors considered in volume forecasting, defining major capital equipment, factors considered in revenue budgeting and rate setting, and budget development, monitoring and approval.

HPTH 556 Cardiopulmonary Physical Therapy 3 q.h.

The course is a graduate-level survey of cardiopulmonary issues in Physical Therapy. The cardiopulmonary literature is reviewed within the concepts of patient care over the life span. Current advances in technology are discussed.

HCLS 680 Fundamentals of Epidemiology 3 q.h.

Presentation of concepts and methods of epidemiology as they are applied to a variety of disease problems. Emphasis on the integration of biological and statistical elements of specific diseases.

HPTH 580 Rasch Analysis 1 q.h.

An overview of the use of the Rasch Analysis for the development and evaluation of assessment instruments.

HPTH 585 Research Techniques (Hours to be Arranged)

A laboratory experience with either an established basic science or clinical science investigator. The student must commit to full participation in the laboratory work as determined by the investigator.

Clerkship Affiliation Sites***Department of Physical Therapy**

Accelerated Rehabilitation (Chicago, IL)

A.C.I.C. (Irvine, CA)

Adventist Health (Portland, OR)

Alexian Brothers Medical Center (Elk Grove Village, IL)

Alliant Health System (Louisville, KY)

American Rehabilitation Group, P.S.C. (Lexington, KY)

Associated Physical Therapists, Inc. (Ft. Wayne, IN)

Associated Rehab Services Novacare (Merrillville, IN)

Associated Rehab Services (Valparaiso, IN)

Athletico Sports Medicine and PT (LaGrange, IL)

Baptist Memorial Healthcare System (San Antonio, TX)

Barrington Rehabilitation and Sports Physical Therapy
(Barrington, IL)

Baton Rouge Physical Therapy (Baton Rouge, LA)

Baycliff Health Camp (Marquette, MI)

Beloit Memorial Hospital (Beloit, WI)

BroMenn Lifecare Center (Bloomington, IL)

Buffalo Grove PT and Sports Rehab, P.C.
(Buffalo Grove, IL)

Carle Foundation Hospital (Champaign, IL)

Carmel Hospital (Carmel, IN)

Cary Physical Therapy (Cary, IL)

Central DuPage Hospital (Winfield, IL)

Central Wisconsin Center for the Developmentally
Disabled (Madison, WI)

Children's Development Center (Rockford, IL)

Children's Hospital of Illinois (Peoria, IL)

Children's Hospital Medical Center (Cincinnati, OH)

Children's Memorial Hospital (Chicago, IL)

Christ Hospital (Oak Lawn, IL)

Cleveland Clinic Foundation (Cleveland, OH)

Columbia Grant Hospital (Chicago, IL)

Columbia Hospital (Milwaukee, WI)

Columbus Hospital Rehab (Chicago, IL)

Community Hospital (Munster, IN)

Community Physical Therapy (Wood Dale, IL)

Concentra Occupational Medical Center (Madison, WI)
 Concentra Occupational Medical Center (Milwaukee, WI)
 Concentra Occupational Medical Center (New Berlin, WI)
 Condell Memorial Hospital (Libertyville, IL)
 Coney Island Hospital (Brooklyn, NY)
 Copley Memorial Hospital (Aurora, IL)
 Covenant Rehabilitation Services (Milwaukee, WI)
 Crystal Clinic-Rehab Health (Akron, OH)
 Currative Rehabilitation Center (Milwaukee, WI)
 Danville Regional Medical Center (Danville, VA)
 Delnor Community Hospital (Geneva, IL)
 Easter Seal Rehabilitation Center of Will-Grundy
 Counties (Joliet, IL)
 Edgewater Rehab Assoc. Inc. (Northbrook, IL)
 Edward Hospital (Naperville, IL)
 Eisenhower Medical Center (Rancho Mirage, CA)
 Elmbrook Memorial Hospital-Acute Care (Brookfield, WI)
 Elmbrook Memorial Hospital-Inpatient Comprehensive
 Rehab (Brookfield, WI)
 Elmhurst Memorial Hospital (Elmhurst, IL)
 Evanston Hospital (Evanston, IL)
 Fairfield Medical Center (Lancaster, OH)
 Focus Physical Therapy (Chicago, IL)
 Franciscan Home Health (Milwaukee, WI)
 Franciscan Wood-Transitional Rehab (Brookfield, WI)
 Froedtert Hospital Rehab Services Dept. (Milwaukee, WI)
 Genesis Medical Center (Davenport, IA)
 Gillette Children's Hospital (St. Paul, MN)
 Glenbrook Hospital (Glenview, IL)
 Good Samaritan Hospital (Downers Grove, IL)
 Good Shepherd Hospital (Barrington, IL)
 Gottlieb Hospital (Melrose Park, IL)
 Grant Hospital (Chicago, IL)
 Great Plains Sports Medicine and Rehab (Peoria, IL)
 Gulf Coast Aquatic & Rehab Center (Crystal River, FL)
 Hammond Clinic (Munster, IN)
 HealthSouth Center (Chicago, IL)
 HealthSouth Health Care (Schaumburg, IL)
 HealthSouth Physical Therapy (Barrington, IL)
 HealthSouth Physical Therapy (Chicago, IL)
 HealthSouth Physical Therapy (Deerfield, IL)
 HealthSouth Physical Therapy (Des Plaines, IL)
 HealthSouth Physical Therapy (Fort Lauderdale, FL)
 HealthSouth Physical Therapy (Fort Wayne, IN)
 HealthSouth Physical Therapy (Gurnee, IL)
 HealthSouth Physical Therapy (Hoffman Estates, IL)

HealthSouth Physical Therapy (Los Angeles, CA)
 HealthSouth Physical Therapy (Palatine, IL)
 HealthSouth Rehabilitation Corporation (Carol Stream, IL)
 HealthSouth Sportsnation (Tigard, OR)
 Healthwin Hospital (South Bend, IN)
 Hendricks Community Hospital (Danville, IN)
 Highland Park Hospital (Highland Park, IL)
 Hinsdale Hospital (Hinsdale, IL)
 Hoffman Estates Medical Center (Hoffman Estates, IL)
 Hollywood Medical Center (Hollywood, FL)
 Holy Cross Hospital (Chicago, IL)
 Holy Family Health Center (Des Plaines, IL)
 Illinois Masonic Medical Center (Chicago, IL)
 Ingalls Memorial Hospital (Harvey, IL)
 Iowa Veterans Home (Marshalltown, IA)
 John H. Stroger, Jr., Hospital of Cook County (Chicago, IL)
 Johnston R. Bowman Center (Chicago, IL)
 Jupiter Medical Center-Rehab Services (Jupiter, FL)
 Kamin Physical Therapy, Inc. (Park Ridge, IL)
 Kenosha Rehab West (Kenosha, WI)
 Kerlan-Jobe Orthopedic HealthSouth Rehab Corp
 (Inglewood, CA)
 LaGrange Memorial Hospital (LaGrange, IL)
 Lake Forest Health & Fitness Institute (Lake Forest, IL)
 Lake Forest Hospital Outpatient Center (Gurnee, IL)
 La Rabida Children's Hospital (Chicago, IL)
 Laremont School (S.E.D.O.L.) (Gages Lake, IL)
 Little Company of Mary Hospital (Evergreen Park, IL)
 Loyola University Hospital and Medical Center
 (Maywood, IL)
 Loyola University Medical Center (Forest Park, IL)
 Lutheran General Hospital (Park Ridge, IL)
 Lutheran General Sports Medicine Center
 (Park Ridge, IL)
 Lutheran Hospital of Indiana (Fort Wayne, IN)
 MacNeal Hospital (Berwyn, IL)
 Maine Township Special Ed. (Park Ridge, IL)
 Marian Catholic Home (Milwaukee, WI)
 Marian Franciscan Center (Milwaukee, WI)
 Marianjoy Rehabilitation Center (Wheaton, IL)
 Maricopa Medical Center (Phoenix, AZ)
 Mayfair Outpatient Center (Wauwatosa, WI)
 McCullough-Hyde Memorial Hospital (Oxford, OH)
 Medical College of Virginia Hospitals (Richmond, VA)
 Memorial Health Systems (Springfield, IL)

Memorial Hospital of Carbondale (Carbondale, IL)
 Memorial Medical Center (Woodstock, IL)
 Mercy Center for Health Care Services (Aurora, IL)
 Mercy Hospital and Medical Center (Chicago, IL)
 Mercy on Pulaski (Chicago, IL)
 Methodist Hospital of Gary (Gary, IN)
 Methodist Hospital of Indiana (Indianapolis, IN)
 Michael Reese Hospital (Chicago, IL)
 Midwest Physical & Hand Therapy Center
 (Schaumburg, IL)
 Mt. Sinai Hospital (Chicago, IL)
 Naval Hospital (Great Lakes, IL)
 Neuro-Ortho Rehab Center (Bloomington, IL)
 New Ulm Medical Center (New Ulm, MN)
 North Shore PT, S.C. (Northbrook, IL)
 North Suburban Special Education District
 (Highland Park, IL)
 Northern Illinois Medical Center (McHenry, IL)
 Northwest Community Hospital (Arlington Heights, IL)
 Northwest Physical Therapy Services (Seattle, WA)
 Northwest Suburban Special Education District
 (Palatine, IL)
 Northwestern-Health Physical Therapy (Chicago, IL)
 Northwestern Memorial Hospital (Chicago, IL)
 Norton Medical Center (Louisville, KY)
 NovaCare (Alsip, IL)
 Oak Forest Hospital (Oak Forest, IL)
 Oak Park Hospital (Oak Park, IL)
 Oak Park Physical Therapy (Oak Park, IL)
 OSF St. Joseph Medical Center (Bloomington, IL)
 OSF St. Mary Medical Center (Galesburg, IL)
 Palos Community Hospital (Palos Heights, IL)
 Park Nicollet Medical Center (Burnsville, MN)
 Pathways (Glenview, IL)
 Paulson Rehab Center (Willowbrook, IL)
 Pediatric Place (Libertyville, IL)
 Physiotherapy Associates (Fort Wayne, IN)
 PostCare (Buffalo Grove, IL)
 Princeton Club (Madison, WI)
 Princeton Hospital (Orlando, FL)
 Prism Rehab Systems (Naperville, IL)
 Professional Sports Care-HealthSouth (New York, NY)
 Professional Sports Care-HealthSouth Satellite
 (Uniondale, NY)
 Provena Mercy Center for Health Care Services
 (Aurora, IL)

Providence Alaska Medical Center (Anchorage, AK)
 PT Outpatient Center (Naperville, IL)
 Ravenswood Hospital Medical Center (Chicago, IL)
 Rehabilitation Hospital of Indiana (Indianapolis, IN)
 Rehabilitation Institute of Chicago (Chicago, IL)
 Rehabilitation Services Network (Chicago, IL)
 Resurrection Hospital (Chicago, IL)
 Rhode Island Rehab Institute (Cranston, RI)
 Rush North Shore Medical Center (Skokie, IL)
 Rush-Presbyterian - St. Luke's Medical Center
 (Chicago, IL)
 Sacred Heart Rehabilitation Hospital (Milwaukee, WI)
 Sacred Heart Rehabilitation Institute (Milwaukee, WI)
 Sacred Heart Rehab Unit (Cudahy, WI)
 Sacred Heart Rehab Unit (Elkhorn, WI)
 Sacred Heart Rehab Unit (Kenosha, WI)
 Sacred Heart Rehab Unit (Oconomowoc, WI)
 Sally Potter School (Mundelein, IL)
 Schwab Rehabilitation Center (Chicago, IL)
 Shared Therapeutic Services (Greenfield, WI)
 Sheltering Arms Hospital (Richmond, VA)
 Sherman Hospital (Elgin, IL)
 Shriners Hospital for Crippled Children (Chicago, IL)
 South East Baptist Hospital (San Antonio, TX)
 South Suburban Hospital (Hazel Crest, IL)
 Southern Lakes Therapeutics (Burlington, WI)
 Southport Rehab Associates, Inc. (Kenosha, WI)
 Special Education District of McHenry County
 (Woodstock, IL)
 Sports PT of Kenosha (Kenosha, WI)
 St. Alexius Medical Center (Hoffman Estates, IL)
 St. Catherine's Hospital (Kenosha, WI)
 St. Catherine's Hospital Acute Care PT (Kenosha, WI)
 St. Francis Hospital (Evanston, IL)
 St. Francis Hospital (Milwaukee, WI)
 St. Francis Hospital Performance Centers (Milwaukee, WI)
 St. James Hospital (Pontiac, IL)
 St. John's Medical Center (Springfield, IL)
 St. Joseph Hospital (Chicago, IL)
 St. Joseph Hospital (Joliet, IL)
 St. Joseph Hospital (Milwaukee, WI)
 St. Joseph Hospital (Phoenix, AZ)
 St. Joseph Medical Center (Ft. Wayne, IN)
 St. Joseph Medical Center (Bloomington, IL)

St. Joseph Physical Rehab & Sports Injury Center
(Joliet, IL)

St. Joseph Rehab & Fitness (Chicago, IL)

St. Joseph's Hospital-Acute Care (Milwaukee, WI)

St. Joseph's Hospital-Cardiac Rehab (Milwaukee, WI)

St. Joseph's Hospital (Denver, CO)

St. Joseph's Hospital-Inpatient (Milwaukee, WI)

St. Mary's Hospital (Milwaukee, WI)

St. Michael Hospital-Acute Care (Milwaukee, WI)

St. Michael Hospital-Inpatient (Milwaukee, WI)

St. Michael Hospital Healthcare Center (Brown Deer, WI)

St. Therese Medical Center (Waukegan, IL)

St. Vincent's Hospital (Indianapolis, IN)

Swedish American Hospital (Rockford, IL)

Swedish Covenant Hospital (Chicago, IL)

Terrace at St. Francis (Milwaukee, WI)

Texas Children's Hospital (Houston, TX)

Texoma Health Care, Reba McEntire Center for Rehab
(Denison, TX)

THC-Chicago (Chicago, IL)

Toledo Hospital-Sports Care (Toledo, OH)

Trailov Physical Therapy (McHenry, IL)

United Cerebral Palsy (Chicago, IL)

University of Chicago Hospital (Chicago, IL)

University of Illinois Hospital (Chicago, IL)

University of Iowa Hospital and Clinic (Iowa City, IA)

U.S. Healthworks of Ohio (Cincinnati, OH)

V.A. Hospital (Chicago, IL)

V.A. Hospital (Hines, IL)

V.A. Medical Center (North Chicago, IL)

Valley Physical Therapy Center (McMinnville, OR)

Vencor-Chicago Central (Chicago, IL)

Victory Memorial Hospital (Waukegan, IL)

Weiss Memorial Hospital (Chicago, IL)

West Allis Memorial Hospital (West Allis, WI)

West Seattle Physical Therapy (Seattle, WA)

West Suburban Hospital (Oak Park, IL)

Westlake Community Hospital (Melrose Park, IL)

Wishard Memorial Hospital (Indianapolis, IN)

Wood River Medical Center (Sun Valley, ID)

Woodland Health Center (Brookfield, WI)

** sites are subject to change*

Faculty and Staff

Donna Frownfelter, PT, MA, DPT, CCS, RRT,
Assistant Professor

Kelly Hawthorne, PT, DPT, GCS, Instructor and
Director of Clinical Education

Heather Henderson, PT, MPT, NCS, Instructor

Roberta Henderson, PT, PhD, Assistant Professor
and Acting Chair

Matthew Nuciforo, PT, DPT, CSCS, Assistant Professor

Mary Rahlin, PT, MS, PCS, Assistant Professor

Wendy Rheault, PT, PhD, Professor

Karen Stevens, PT, MS, OCS, Assistant Professor

Judith Stoecker, PT, PhD, Associate Professor

Susan Tappert, PT, DPT, Assistant Professor

Rosanne Thomas, PT, PhD, Associate Professor

Physician Assistant Department

Master of Science in Physician Assistant Practice

(Entry-Level Professional Program)

General Information

Degree Offered:

Master of Science in Physician Assistant Practice

Program Attendance Options:

Full-time only

Program Length:

24 months

PA Program Accreditation

Accreditation Review Commission on Education for the Physician Assistant, Inc., 1200 Findley Road, Suite 240, Duluth, GA 30097; 770-467-1224.

Definition of the Physician Assistant Profession

Physician Assistants (PAs) are educated and trained to do many of the tasks traditionally performed by physicians. Upon graduation and passing the national PA certification examination, PAs are eligible, in accordance with the regulations of the state medical licensing board, to function as an extension of a supervising physician. PAs are utilized in all medical care settings: as primary care providers in Family and Internal Medicine practices, or assisting specialists in such diverse fields as Surgery, Orthopedics, Obstetrics and Gynecology, Radiology and Pathology. PAs currently provide care to millions of Americans in all types of healthcare settings: offices, clinics, hospitals, nursing homes and long-term care facilities.

Physician Assistant Program Mission Statement

The mission of the Physician Assistant Program is to prepare and educate Physician Assistants to provide quality medical care in a competent, compassionate and ethical manner. In addition, the Department promotes research and academic endeavors which contribute to the advancement of knowledge and the education of fellow professionals, as well as community service.

Physician Assistant Program Vision Statement

The Physician Assistant Program will prepare and educate Physician Assistants to provide comprehensive quality healthcare to all and to serve as academic and professional leaders of the Physician Assistant profession.

Admission Information

All students must have the following prior to matriculation into the program:

- A Bachelor of Science or Bachelor of Arts degree from an accredited college or university.
- The Graduate Record Education (GRE) examination, taken within 5 years of the time of application.
- Graduates of a foreign educational program need to provide an official evaluation of course equivalence report.
- The Test of English as a Foreign Language (TOEFL) exam is required of any applicant from a country in which English is not the native language and who has not attended college or university in the United States for at least two consecutive years or is not a permanent U.S. resident.

Successful applicants to the PA program typically have a cumulative and science GPA of 3.0 and higher; the minimum GPA required is a 2.5 cumulative. There is no minimum required number of medical experience hours; however, direct patient care medical experience and shadowing PAs in clinical practice is strongly recommended and successful candidates typically have 1,200 or more hours of combined direct patient care contact and PA shadowing experience. Candidates should have GRE scores above the 50th percentile and higher in all areas, which is generally above 550 in the Verbal and Quantitative portions and above 5.0 in the Analytical portion. Letters of recommendation should address the candidate's academic capacity and potential as a clinician.

Prerequisite Courses

Each of the following prerequisite courses must be completed at an accredited institution of higher education with a grade of "C" or higher.

- Biochemistry
- Human Anatomy
- Human Physiology
- Introduction to Psychology
- Microbiology (with lab preferred)

The following courses are strongly recommended, but not required: Statistics, Research Design, Technical Writing, Medical Terminology, Medical Ethics and a second, higher-level Psychology course (such as Child Psychology, Developmental Psychology, Abnormal Psychology, etc.)

Admissions Process

- The PA Program is a member of the Centralized Application Service for Physician Assistants (CASPA). All applications must be submitted online directly to CASPA. Prospective applicants should visit the CASPA Web site at www.caspaonline.org to apply. The CASPA admissions cycle begins each year on May 1 and ends December 1.
- The Office of Graduate Admissions forwards completed application files for review only after receipt of all paperwork, which includes receipt of a completed University Supplemental Application and the \$25 processing fee, and the applicant's GRE scores.
- The PA faculty Admissions Committee reviews each completed application for interview consideration. Applications are evaluated based on the strength of the applicant's knowledge of the PA profession, personal motivation in becoming a PA, academic performance, research and scholarly activities, length and quality of healthcare experience, leadership and community service activities, and letters of recommendation. Qualified applicants are offered an on-campus interview to assess interpersonal and communication skills, maturity, and commitment to a career as a PA. The interview session also offers the applicant an opportunity to tour the University facilities, meet the faculty and staff, and talk with current students in the Program.

- Upon receipt of an offer of acceptance, the applicant will have a specified time in which to accept or decline the offer. A non-refundable \$500 tuition deposit is required to confirm acceptance and hold the applicant's place in the class.
- All candidates accepted into the PA program will undergo a criminal record background check upon matriculation into the program.

Rolling Admissions

At each interview session, offers of acceptance into the program are extended to selected candidates. Candidate selection at each interview session continues until all seats in the class are filled. After that, applicants may interview for a place on a waiting list. Offers of acceptance are extended to candidates on the waiting list if a candidate from the accepted class list withdraws from the program.

It is to an applicant's advantage to apply as early as possible in the admissions cycle.

Curriculum Design

RFUMS offers a 24-month, entry-level graduate program leading to a Master of Science in Physician Assistant Practice. The first 12 months consist of didactic course work. The second 12 months are comprised of required core clinical rotations in Family Medicine, Internal Medicine, General Surgery, Women's Health, Pediatrics and Emergency Medicine, plus two elective rotations.

Students are required to develop research competencies throughout the program's two years. Students select one of two research tracks in an area of interest during their first year: a traditional research project with a written Master's Thesis or an Evidence-Based Medicine project, involving smaller research and writing projects on a number of clinical medicine topics. Prior to graduation, students present an oral defense of their work to fellow students, faculty and interested clinicians.

Degree Requirements

In order to receive the Master of Science in Physician Assistant Practice, students are required to complete all course work with a grade of "C" or better.

Students must complete all course and curriculum work in its entirety. No advanced standing or transfer credits will be awarded regardless of previous experience.

Required Courses

HPAS 500 P.A. Professional Issues and Ethics (2 q.h.)

This course is designed to familiarize the student with the history and traditions of the PA Profession. Students will learn about the work of PAs as they function in various healthcare settings. This is complemented by a focused review of current philosophies, policies, and ethical issues in contemporary health care targeted at healthcare professionals.

MCBA 501 Clinical Anatomy (10 q.h.)

This course utilizes formal lecture and cadaver dissection to perform an in-depth study of the structure of the entire human body. This format is supplemented with several lectures specifically designed to correlate the anatomical findings with clinical applications for the medical practitioner.

HPAS 501 General Medicine & Infectious Disease I (10 q.h.)

This is the first in a series of three courses studying principles of patient clinical care. Using an organ-system based approach, lectures discuss the etiology, pathophysiology, diagnosis, and treatment of various disease syndromes in the areas of dermatology, neurology, endocrinology, and cardiology. The course incorporates principles of diagnostic imaging study interpretation and surgical principles into the discussion of diseases. Infectious disease topics relevant to each system are also discussed.

HPAS 502 Introduction to EKG (1 q.h.)

This course provides students with a systematic method of interpreting a 12-lead EKG with respect to rate, rhythm and blocks, electrical axis determination, hypertrophy, ischemia, injury, infarction, and miscellaneous drug, electrolyte, disease, and pacemaker effects.

HPAS 508 Interviewing and Medical Documentation (2 q.h.)

This course is designed to furnish beginning PA students with the proper techniques for obtaining a medical interview and for documenting the medical record. Documents to be covered include the complete medical history, admission notes, SOAP notes, progress notes, procedural notes, discharge summaries, hospital orders, etc. Also, accurate and efficient data collection, proper responses to patients' emotions, and skills to educate and influence patients' behaviors are covered.

HPAS 510 General Medicine & Infectious Disease II (9 q.h.)

This course is the second in the series of Clinical Medicine and Infectious Disease courses as described above. Topic areas are: hematology/oncology, immunology, HIV disorders, renal disease, pulmonology, fluid and electrolyte and acid-base disorders, and gastroenterology.

HPAS 512 Clinical Decision Making I (2 q.h.)

This course presents students with case studies as a means of teaching how to systematically approach the problem, order appropriate diagnostic studies, develop a differential diagnosis, write a treatment plan, and describe the prognosis. Whenever possible, this course is integrated with the lecture content of the General Medicine courses.

HPAS 513 Physical Examination, Lecture/Lab (4 q.h.)

This course teaches the student how to perform a comprehensive head-to-toe physical examination of an adult, as well as how to properly document physical findings in the medical record.

HPAS 515 Psychosocial Aspects of Patient Care (2 q.h.)

This course aims to pique the awareness of the physician assistant for psychological and sociological aspects potentially operational in the relationship of patient and physician assistant. Students investigate the contextual setting of medical practice, the patient as a person, and the professional physician assistant's psycho/social considerations during patient assessment and treatment.

HPAS 518 Emergency Medicine (2 q.h.)

This course introduces the PA student to the principles of Emergency Medicine, including the PA's role in triage, assessment, and emergency management. A variety of neonatal, pediatric and adult emergencies will be discussed. In addition, the student will be expected to successfully complete an American Heart Association CPR course (level C) as part of this class.

HPAS 519 Obstetrics and Gynecology (2 q.h.)

This course is designed to introduce and familiarize the student with the principles of Obstetrics and Gynecology. It will cover a wide variety of common problems, focusing on diagnosis and treatment.

HPAS 520 General Medicine & Infectious Disease III (7 q.h.)

This course is the third in the series of Clinical Medicine and Infectious Disease courses as described above. This final quarter focuses on disorders in commonly seen in specialty practice. Topic areas are: breast disorders, genitourinary diseases, rheumatology, otolaryngology, psychiatry, principles of surgery, and ophthalmology.

HPAS 522 Clinical Decision Making II (2 q.h.)

This is the second of two clinical problem solving courses as described above.

HPAS 523 Clinical Procedures, Lecture/Lab (3 q.h.)

This course covers the indications, contraindications, step-by-step procedures, and potential complications of multiple hands-on skills that are commonly performed by Physician Assistants in clinical practice. Examples include: phlebotomy, injections (ID, IM, SQ), IV therapy, urethral and nasogastric catheterization, pulmonary function testing, suturing, casting and splinting, various ENT procedures, electrical cardioversion, and use of various types of monitoring devices and restraints. Students will have an opportunity to scrub, gown and glove in an operating room environment, observe endoscopic procedures, and perform phlebotomy on patients at a nearby medical center. In addition, students will be required to successfully complete an Advanced Cardiac Life Support (A.C.L.S.) training course.

HPAS 525 Geriatrics (2 q.h.)

This course introduces the student to the principles of Geriatric Medicine with an emphasis on the normal changes of aging, clinical implications of the aging process, and recognizing, assessing and treating medical problems common to the geriatric population.

HPAS 528 Research and Statistics (2 q.h.)

The purpose of this course is to introduce students to research and statistics in medicine. Topics include principles of research, ethics, information retrieval, the literature review and critical examination of articles. Students begin their work on group research projects and research competencies. In the statistics portion, descriptive and inferential statistics are taught with relevance to research in medicine. Use of computers for statistical analysis is included, and students will have the opportunity to analyze data for their Master's project.

HPAS 530 Pharmacology and Clinical Therapeutics I (5 q.h.)

This course will explore general pharmacologic principles, drug receptor sites, important drug interactions, and the effects of drugs on the peripheral nervous system. It will integrate the general pharmacologic principles of pharmacodynamics, pharmacokinetics, mechanisms of action, classes of therapeutic agents, recommended dosing, proper routes of administration, common side effects, drug interactions and contraindications. Discussion of each drug class will include practical clinical correlations.

HPAS 531 Pharmacology and Clinical Therapeutics II (5 q.h.)

This course is a continuation of HPAS 530, and covers classes of drugs not previously covered in the first quarter. It will also explore drug development, using the PDR, and writing prescriptions.

HPAS 536 Clinical Laboratory for the Health Professional (2 q.h.)

This course applies scientific laboratory methods to diagnostic and therapeutic problems of clinical medicine. The student will receive instruction on how to order lab tests in a timely, appropriate, and cost-effective manner for the purpose of improved patient monitoring and enhanced diagnostic accuracy.

**HPAS 537 Health Promotion/Public Health/
Prevention Medicine (1 q.h.)**

This course includes evaluation and discussion of the role of the physician assistant in disease prevention and patient education. Emphasis is placed on the impact of medical intervention in preventable diseases, and the efficacy of screening exams. In addition, students will design and utilize patient education materials in clinical scenarios.

HPAS 540 Pediatrics (2 q.h.)

This course will introduce the student to the fundamentals of pediatric medicine, covering the age span from neonate through adolescence. Major topic areas to be covered include: care of the neonate, infant feeding, childhood growth and development, preventive care, and diagnosis and management of common pediatric disorders.

HPAS 561 Clinical Nutrition for Health Professionals I (1 q.h.)

This course focuses on the area of nutrition for health maintenance and nutritional support for specific clinical situations. Topics addressed include: health promotion and disease prevention; metabolism, requirements, and sources of nutrients; nutritional needs during the life cycle, including pregnancy and lactation, infancy, childhood, adolescence and aging, enteral and parenteral nutrition, critical illness and drug-nutrient interactions.

HPAS 562 Clinical Nutrition for Health Professionals II (1 q.h.)

This is a continuation of Clinical Nutrition I, but is completed during the second year of the PA program. Real life clinical cases are presented on the Nutrition Web site, and students complete the problems using examples from their clinical year rotation sites.

HPAS 646 Advanced Physical Examination Lecture/Lab (3 q.h.)

This course expands upon the HPAS 513 Physical Examination course. Students will learn to perform focused physical examinations, as well as specialty exams, that are typically performed by Physician Assistants in clinical practice. Students will also have an opportunity to perform female breast and pelvic examinations, as well as male genital and rectal examinations, on professional instructor patients.

HPAS 650 Complementary Medicine (1 q.h.)

This course will provide students with a broad perspective of the characteristics and cultural/historical background of complementary health therapies. The student will be given the opportunity to interact with specialists in various fields of complementary medicine.

HMTD 500 Interprofessional Healthcare Teams (1 q. h.)

This course is an experiential learning opportunity for all students at Rosalind Franklin University of Medicine and Science to learn about a collaborative model of care. The students will interact in healthcare teams focusing on patient-centered care emphasizing evidence-based practice, quality improvement strategies and informatics.

Clinical Education

Students will be expected to travel to several clerkships at locations distant from the school. While some sites have housing available, students are otherwise responsible for their own housing.

HPAS 550 Internal Medicine (6 q.h.)

Six-week clerkship in an Internal Medicine setting

HPAS 560 General Surgery (6 q.h.)

Six-week clerkship in a General Surgery setting

HPAS 565 Family Medicine (6 q.h.)

Six-week clerkship in a Family Medicine setting

HPAS 570 Women's Health (6 q.h.)

Six-week clerkship in an Obstetrics/Gynecology setting

HPAS 575 Pediatrics (6 q.h.)

Six-week clerkship in a Pediatric setting

HPAS 580 Emergency Medicine (6 q.h.)

Six-week clerkship in an Emergency Medicine setting

HPAS 591 Elective Rotation (6 q.h.)

Six-week clerkship in a medical or surgical subspecialty (subject to approval by the Department).

Electives include Cardiology, Cardiothoracic Surgery, General Surgery, Family Medicine, Occupational Medicine, Emergency Medicine, Neurology, Neurosurgery, Orthopedics, Oncology, Pediatrics/Neonatology, Trauma Surgery, Infectious Disease, Women's Health and Internal Medicine.

HPAS 599 Preceptorship (8 q.h.)

Eight-week clerkship with a physician of the student's choosing (subject to approval by the Department).

HPAS 690 Master's Project I (10 q.h.)

The Master's Project course may be completed using one of two available pathways, either by completing a formal research thesis project or by completing a series of evidence-based medicine projects.

For each of these evidence-based medicine projects, the student will be expected to succinctly state the problem being investigated, identify how references are obtained (i.e., list the key search words and search engines utilized in Internet searches), and write the paper and list all references using proper APA or AMA format. It is expected that the references utilized will consist primarily of recent articles from reputable medical journals, and that the student will perform a thorough critique of each. Complete instructions for the thesis project are contained in Guidelines for the Evidence-Based Medicine Projects published by the PA Department.

Adjunct Faculty

The PA Program has a large number of physicians, PAs and other health professionals who act as adjunct didactic and clinical faculty. The complete list is available in the PA Program Office.

Financial Aid

All student aid at Rosalind Franklin University of Medicine and Science is predicated on the results of your FAFSA (Free Application for Federal Student Aid). You can fill out and transmit the FAFSA online. The Web site is www.fafsa.ed.gov. FAFSA on the Web is fast and easy, and will give you helpful feedback on your eligibility for financial aid. Note that:

- A majority of Rosalind Franklin University PA students apply for and receive financial aid.
- The Financial Aid Office is notified in March of those applicants who have been accepted by the PA Program and financial aid applications are sent out.
- After filling out the application, the Financial Aid Office will assist you with questions or specific information about your needs for aid.
- Those who have applied for aid can reach the Financial Aid Office directly by calling 847-578-3217.

Clinical and Educational Centers (Affiliations) — Physician Assistant Department

Advocate Health Care (Park Ridge, IL)
 Advocate Lutheran General Hospital (Park Ridge, IL)
 Advocate Trinity Hospital (Chicago, IL)
 Affinity Orthopaedics and Sports Medicine (Appleton, WI)
 Alexian Brothers Medical Center (Elk Grove Village, IL)
 Centegra Health Systems (McHenry, IL)
 Childrens Hospital of Wisconsin (Milwaukee, WI)
 Delnor Community Hospital (Geneva, IL)
 Evanston Hospital Corporation (Evanston, IL)
 Fox Valley Orthopedic Institute (Geneva, IL)
 Froedtert Memorial Hospital (Milwaukee, WI)
 Glenbrook Hospital (Glenview, IL)
 Great Lakes Naval Hospital (Great Lakes, IL)
 Highland Park Hospital (Highland Park, IL)
 Illinois Bone and Joint Institute (Bannockburn, IL)
 Hines Veterans Administration Hospital (Hines, IL)
 Holy Cross Hospital (Chicago, IL)
 Hurley Medical Center (Flint, MI)
 Illinois Bone & Joint Institute (Glenview, IL)
 John H. Stroger, Jr., Hospital of Cook County
 (Chicago, IL)
 KSB Center for Health Services (Dixon, IL)
 Marshfield Clinic (Marshfield, WI)
 Mayo Hospital & Clinics (Rochester, MN)
 MD Anderson Cancer Center (Houston, TX)
 Midwestern Regional Medical Center (Zion, IL)
 Mt. Sinai Hospital & Medical Center (Chicago, IL)
 North Chicago Veterans Administration
 (North Chicago, IL)
 Northwest Community Hospital (Arlington Heights, IL)
 Northwestern Hospital (Chicago, IL)
 Park Nicolett Health Services (St. Louis Park, MN)
 Provena Saint Mary's (Kankakee, IL)
 Resurrection Hospital (Chicago, IL)
 Roseland Hospital (Chicago, IL)
 Rush North Shore Medical Center (Skokie, IL)

Sherman Hospital (Elgin, IL)
 St. Alexius Medical Center (Hoffman Estates, IL)
 St. Bernard Hospital & Healthcare Center (Chicago, IL)
 St. Catherine Hospital (E. Chicago, IN)
 St. Francis Hospital (Evanston, IL)
 St. James Hospital & Health Centers
 (Chicago Heights, IL)
 St. Mary's Medical Center (Hobart, IN)
 The Center for Orthopedic Surgery (Des Plaines, IL)
 Washington Hospital Center (Washington, DC)
 Wheaton Franciscan Healthcare All Saints Hospital
 (Racine, WI)

Faculty and Associated Staff

Paul Batty, MD, Clinical Assistant Professor
 Adrian Bianco, MD, Clinical Assistant Professor
 James Carlson, MS, PA-C, Assistant Professor
 Regina Chen, PA-C Assistant Professor
 Wayne Goldstein, MD, Clinical Professor
 P. Rea Katz, MS, PA-C, Assistant Professor
 Walid Khayr, MD, Professor
 Patrick Knott, PhD, PA-C, Associate Professor and Chair
 Andrew Kramer, MD, Clinical Assistant Professor
 Ajay Madhani, MD, Clinical Assistant Professor
 Elana Min, MMS, PA-C, Assistant Professor
 Ernest Nora, III, MD, Clinical Associate Professor
 Clare Obis, MS, PA-C, Assistant Professor
 Pedro Palu-ay, MD, Clinical Assistant Professor
 Preston Reilly, MD, Clinical Assistant Professor
 Loren Schechter, MD, Clinical Instructor
 Dean Shoener, MD, Clinical Assistant Professor
 Greg Skladzien, MD, Assistant Professor
 Curt Stilp, MS, PA-C, Instructor
 Chris Webb, MS, PA-C, Clinical Instructor

Department of Clinical Psychology

Philosophy and Objectives of the Program

The clinical psychology-training program integrates academic, scientific, and professional training and offers the Doctor of Philosophy degree. Students are accepted only into the PhD program. During the course of the PhD program, students also earn a Master of Science degree in Psychology. The program provides students with intensive instruction in the theoretical framework of psychology and broad experience in methods of practice of clinical psychology. Our program is defined by the scientist-practitioner model. The scientist-practitioner model produces a psychologist who is uniquely educated and trained to generate and integrate scientific and professional knowledge, attitudes, and skills so as to further psychological science, the professional practice of psychology, and human welfare. The graduate of this training model is capable of functioning as an investigator and as a practitioner, and may function as either or both, consistent with the highest standards in psychology. The scientist-practitioner model is ideal for psychologists who utilize scientific methods in the conduct of professional practice (Belar & Perry, 1992). In keeping with the scientist-practitioner model, we believe that clinical psychologists should be both scientists -- knowledgeable in formulating and solving scientific problems; and practitioners -- experienced in the use of empirically supported clinical techniques. To this end, the core courses are organized as integrated theory-research-practice units with a problem solving emphasis.

Within the context of a general clinical psychology training program, our program offers focused training in Neuropsychology, Health Psychology and Psychopathology. The training emphasis of the program involves a combined biological and behavioral-approach to the understanding and treatment of abnormal behavior and its relationship to normal behavior. The training tracks prepare students for clinical service, teaching and research in medical, mental health, and academic settings. Students receive training in a broad range of assessment procedures and intervention approaches with an emphasis on empirically supported interventions. Students gain experience with a range of medical, neurological, psychiatric, and neuropsychiatric populations through clinical and research activities. Our graduates are well prepared clinicians and researchers because of their solid grounding in theory, practice, and research. The training assures the development of broad based clinical skills and encourages close cooperative work with other health care specialists such as pediatricians, internists, neurologists, neurosurgeons, geriatricians and psychiatrists.

The clinical psychology program enjoys full accreditation status by the American Psychological Association (APA). Our program strives to maintain a balance between academic course work, research training, and supervised clinical practicums. In designing its core curriculum, the department follows the recommendations of the Committee on Accreditation. The course curriculum includes a sequence of required courses that exposes students to the current body of knowledge in the following areas: biological aspects of behavior, cognitive and affective aspects of behavior, social aspects of behavior, history and systems of psychology, psychological measurement, research methodology and techniques of data analysis. Additionally, students in the areas of Health Psychology, Neuropsychology and Psychopathology are required to take additional courses and electives. A sequence of clinical practicums and participation in research round out the pre-internship years.

For more information about the program, please contact Pat Rigwood at 847-578-3305 or patricia.rigwood@rosalindfranklin.edu.

Program Description

The program requires a minimum of four full-time pre-internship years. In addition, students must complete a one-year internship. While the PhD degree can be completed within five years, typically, six to seven years is the average length of study. The fourth academic year and all years thereafter are tuition-free. There are four quarters in the academic year; all quarters are approximately eleven weeks in duration. The minimum academic load for full-time students is twelve credit units per quarter except during the summer quarter, when students register for only two credit units. Students are eligible to apply for internship after passage of a Preliminary Qualifying Comprehensive Exam and approval of a dissertation proposal. Once the dissertation proposal is approved, up to three additional years are allowed for the completion of all requirements for the PhD degree (i.e., completion of the dissertation and its defense, and the internship year).

Year 1

A sequence of required courses is taken during the first year. Clinical practicums also begin during the first year. It is anticipated that students will begin active participation in a research program with their advisor. The fourth quarter (Summer) is typically devoted to research and applied courses designed to prepare students for second year practicums.

Year 2

A series of required general courses are offered during the second year. Students may begin to take electives as part of their schedule. Continuation of clinical practicums and research participation occur during this year. Completion of a thesis, along with satisfactory course grades, qualifies the student for the M.S. degree.

Year 3 and Year 4

Track specific courses, electives, required courses, clinical practicums, and research activities continue during these years. Comprehensive exams are taken in January of year 3. Students also complete their masters' thesis and begin work on their dissertation project. The dissertation proposal must be approved by September 30, if the student is to be eligible to apply for internship the following year.

Additional didactic activities in which students may participate include: Department sponsored colloquia; Neuroimaging Seminars; a Visiting Speaker Series and individual case conferences sponsored by the Department of Psychiatry; training conferences, special lectures and grand rounds sponsored by basic science and/or clinical departments, as well as the Psychology and Psychiatry Service of the North Chicago Veterans Affairs Medical Center (NCVAMC).

Typical Sequence of Required Courses

First Year

Descriptive Psychopathology (4)
 Physiological Psychology (4)
 Professional Issues I (1)
 Cognitive Assessment (4)
 Psychological Statistics I (4)
 Psychological Statistics II (4)
 Experimental Design and Program Evaluation I (4)
 Clinical Seminar (2)
 Theories of Psychotherapy (4)
 Clinical Practicum
 Research (Masters)
 Seminars in Clinical Fundamentals –
 taken during summer after year 1 (2)

Second Year

Cognitive & Behavior Therapy (4)
 Intro to Neuropsychology (4)
 Health Psychology I (4)
 Personality Assessment (4)
 Social Psychology (3)
 Life Span Developmental (2)
 Theoretical Psychopathology (3)
 Multicultural Issues in Mental Health (3)
 Personality Theory (3)
 Professional Issues II (2)
 Clinical Practicum
 Research (Masters)

Third Year

Learning Theory (2)
 History & Systems (2)
 Neuropsychological Assessment¹ (4)
 Health Psychology II² (4)
 Developmental Psychopathology³ (4)
 Clinical Practicum
 Research (Dissertation)
 Electives

Fourth Year

Clinical Practicum
 Research (Dissertation)
 Electives

Fifth Year

Internship

(Numbers in parentheses reflect credit hours)

1Required course for Neuropsychology track

2Required course for Health Psychology track

3Required course for Psychopathology track

Clinical Practicums

Clinical training is considered an integral part of the doctoral program in clinical psychology. Clinical practicums are organized to ensure a progression of clinical training experiences that correspond with the sequence of the course curriculum. Clinical practicum training plays an important role in the integration of theory, research and practice. Clinical practice provides opportunities for students to integrate critical thinking and hypotheses testing into their clinical activities and to assimilate an empirical, scientifically informed approach to clinical practice. The department works collaboratively with a number of off-site practicum training sites in the Illinois and Wisconsin areas. These settings include, but are not limited to, hospitals, medical centers, community mental health centers, school districts, and private practices. The department also has clinical programs that are supervised by department faculty. Students gain experience in general therapy and assessment skills, as well as training specifically in the training tracks offered in the department, neuropsychology, health psychology and psychopathology. Although the department primarily has a cognitive-behavioral orientation, the practicum training at the different sites expose students to multiple theoretical orientations and intervention techniques.

Beginning in the first year, each student begins a series of practicum experiences that will total a minimum of 1,000 hours (34 credit hours). Typically, students have an average of 2,000 hours of clinical training by the time they apply for internships. Ideally, a student obtains a breadth of clinical experiences including diagnostic interviewing skills, assessment and intervention skills. Clinical practicums in year 1 and year 2 are designed to provide students with clinical training in fundamental intervention and assessment skills. Training in the first two years is expected to prepare students for more advanced clinical training in years 3, 4, and 5 in track-specific areas.

First-year students are typically assigned to a practicum placement. The objective of first-year practicum training is to introduce students to a setting that provides clinical services, so that a student is able to understand the roles and functions of clinical psychologists. First-year students are typically expected to spend 4 to 6 hours per week in clinical practicum training.

This academic year (2007-08) marks the eighth year of collaboration between the Department of Psychology at Rosalind Franklin University and Head Start of Lake County. Head Start is a free, comprehensive preschool program that services children ages 3 to 5 years. To enroll in Head Start, a family must meet low-income qualifications.

All Head Start children must be screened for a wide range of disabilities. This requirement involves observing each child individually to determine the possible presence of developmental delays, behavioral problems, and/or emotional distress. Head Start of Lake County has contracted with the Department of Psychology in order to provide these behavioral health services. In addition to direct behavioral observations, students are also trained to develop classroom behavioral management strategies for specific children and consult with teachers and other Head Start staff on a regular basis. Students also occasionally assist children in obtaining free or low-cost disability services such as speech therapy through the local school district. Students also have the opportunity to participate in staff training. All first-year students participate in this program. For these students, the exposure to a richly diverse preschool population within a federally funded organization provides invaluable experience on a number of levels.

From the beginning of the second year until the approval of the Master's Thesis proposal, students spend an average of nine hours per week in clinical practicum training. The second-year practicum consists of clinical service in a community-based setting coupled with a yearlong didactic course. Students first meet with the Director of Clinical Training (DCT) and their respective advisor to discuss training and career goals in order to determine the appropriate placement for the second year practicum. Placements include psychological assessments for schools and adult centers as well as psychotherapy at the VA. Primary supervision will be provided on-site; however, a secondary supervisor will be assigned from the faculty to assist if necessary. To balance training, all students will have the opportunity to do both assessment and psychotherapy in their second year.

After approval of the Master's Thesis proposal, students may spend a maximum of 12 hours per week in practicum training. Students at this level typically choose practicum placements that are more intensive and closely match their area of interest (e.g., health psychology, neuropsychology, and psychopathology). A detailed description of the different practicum sites is available on the department's Web site at www.rosalindfranklin.edu/srhs/psychology. The DCT works closely with students to facilitate specific placements. The DCT also works with the different sites to ensure that practicum experiences are supervised and structured to meet the training needs of students.

Tracking Practicum Hours

Students applying for internship are required to report details about their practicum hours. Students are encouraged to maintain an ongoing record of practicum hours and other details regarding their practicum experiences. This increases the accuracy of reporting at the time of internship application and also assists in the practicum selection process. There are several sources whereby a student can access sample forms. A program that students have found to be particularly helpful in tracking their clinical training hours is www.time2track.com. There is an annual subscription cost of about \$32. The Director of Clinical Training is available to answer any questions regarding tracking of practicum experiences.

Research

Student research is a fundamental part of the training program. Students begin participating in faculty research early in the first year, and quickly become integral members of a research team. The faculty has broad research interests within the areas of neuropsychology, health psychology, and psychopathology (see faculty research interests). Under faculty supervision, students complete a master's thesis, and ultimately develop their own research culminating in the doctoral dissertation.

Advisors

Upon entering the program, students are assigned a faculty advisor that matches their clinical-research interests. This faculty member serves as both the academic advisor and research mentor. Advisors guide students through the selection of courses, independent study and practicum experiences necessary to complete the program. They provide information, direction, feedback and long-term guidance. Advisors meet with students regularly to review academic performance and to discuss future plans. In addition, an annual meeting of student-advisor-DCT is held to review a student's progress and recommendations made for further training.

In addition to faculty advisors, all incoming students are also matched to student mentors who also assist students in their transition to graduate school and adjustment to the program.

Internships

Students are required to complete a one-year, full-time, clinical internship, after having completed formal course work and a dissertation proposal. The internship is completed at a site chosen to meet student's individual career goals. During internship, students function under supervision as clinical psychologists. The internship facility must comply with the American Psychological Association accreditation standards and must be approved by the Department of Psychology. Our students are typically accepted into APA-approved, high quality internship programs all across the country.

Requirements for PhD Degree

Students must fulfill the following requirements in order to obtain the PhD in Clinical Psychology:

1. Successful completion of all required courses in the program curriculum and an approved group of elective courses.
 - a. It is expected that core courses will be completed through departmental offerings. Electives are typically taken in the department or in related programs within the University. In some instances, electives may be fulfilled through courses taken in another institution. A course syllabus must accompany your request for approval and an official transcript must be provided so that credit can be received. All of this must be approved by the advisor and the faculty.
 - b. Students who have formally registered for and successfully completed one or more graduate courses in accredited universities, prior to entry into our program, may transfer up to 12 credits toward electives. The courses to be transferred must not be redundant with current core course offerings. The faculty will recommend such action to the Dean for approval. All students must enroll at Rosalind Franklin University of Medicine and Science for all required courses and specified electives for their chosen area of clinical emphasis.

2. A minimum of 1,000 clinical practicum pre-internship hours.
3. Completion of a Master's Thesis research project.
4. Passing the comprehensive examinations.
5. Completion of a dissertation proposal and satisfactory oral defense of the dissertation.
6. Demonstrated proficiency in the internship year.
7. Good academic standing defined by an overall average of B or better.

It is important to note that these are minimum requirements and final determination of the adequacy and completion of students' course work and training rests with the department. At the discretion of the department, a student may be required to take additional courses and/or training.

Requirements for Admission

The following are the basic requirements each applicant must fulfill to be considered for admission:

1. BA or BS degree from an accredited college or university.
2. Three letters of reference from former professors or employers familiar with the applicant's professional or educational capabilities. Preferably, two letters should be from former professors.
3. Graduate Record Examination – Verbal, Quantitative, and Analytical Writing. The Advanced Psychology GRE is required for those students who are not undergraduate Psychology majors or have a master's degree in a non-psychology discipline.

The following are the **preferred** test scores, grades, and academic preparation.

- A minimum grade point of 3.2 (on a 4-point scale) for the last two years of undergraduate study.
- Adequate preparation in psychology: at least 15 credit hours of psychology, including a course in statistics and biological psychology.
- A score of 600 in each area of the GRE: Verbal, Quantitative, Analytical and Advanced Psychology. For the Analytical Writing, at least 4.5/5 minimum.

Foreign Applicants

Foreign applicants from a country in which English is not the native language and have not attended an American college or university full-time for 2 consecutive years must provide an official report of TOEFL (Test of English as a Foreign Language) and TWE (Test of Written English) or the computer-based TOEFL. Results of the TSE (Test of Spoken English) are also a requirement. These scores must be from examinations taken within the past two years. Test scores must be sent directly from the Educational Testing Service, Princeton, New Jersey, 08540. If coursework has been taken abroad, an official credential evaluation of that coursework by World Education Services (WES) must be provided. The official WES must be sent directly from the World Education Office to the Office of Admissions. The main telephone number for WES is 212-966-6311, or toll-free at 800-937-3895; fax number is 212-739-6139, and the Web site is www.wes.org.

A completed Financial Statement for International Students accompanied by supporting official documentation must also be submitted. If not enclosed, this form can be obtained from the Office of Admissions.

It should be noted that each application is reviewed in terms of strengths and compatibility with the program. The final decision is based on the overall profile rather than any particular piece of information. Official notice of acceptance is issued from the Office of the Dean of the College of Health Professions.

Applications to the Clinical Psychology program are initially received and processed by the Graduate Admissions Office. When the application is complete (i.e., all required application materials are on file), it is sent to the Graduate Admissions Committee for review. If found acceptable by the Graduate Admissions Committee, applications are then forwarded to the Psychology Department for further consideration. You should receive notification from the Admissions Office once your application has been received informing you of any missing application materials. If you have any questions about the status of your application in terms of its completeness, please feel free to contact the Graduate Admissions Office at 847-578-3209 or grad.admissions@rosalindfranklin.edu. After review of prospective applicants, the department will invite some applicants for an interview. The interview day usually takes place on the first Friday in March.

Based on an initial review and screening of the application, a designated group of applicants will be invited to visit the department and meet faculty and students as well as learn more about the program and University. This interview day is typically held during the first two weeks in March. For those applicants who are unable to attend on this day, arrangements can be made to either visit the University at an alternative time or to have a phone interview with a faculty member. These arrangements should be coordinated through the Department of Psychology's Administrative Assistant, Ms. Pat Rigwood, at 847-578-3305. All students to be accepted into the program are required to either visit the department or have a phone interview with a member of the faculty.

Application deadline for the academic year starting in September is December 1.

It is the applicant's responsibility to ensure that all application materials have been received by the deadline date. Inquires about the completeness of an application can be directed to Office of Graduate Admissions at 847-578-3209 or grad.admissions@rosalindfranklin.edu. Completed applications and other application materials should be sent to:

Graduate Admissions Office
Rosalind Franklin University of Medicine and Science
3333 Green Bay Road
North Chicago, IL 60064

Our department recognizes the importance of cultural and individual differences and is receptive to, and supportive of diversity at a variety of levels in the program including recruitment, curriculum, and the overall climate of learning. We are committed to addressing issues of multiculturalism and enhancing diversity training within the program to meet the needs of our students.

Course Descriptions

Core Courses

GPSC510 Psychological Statistics I

Introduction to the methods of modern statistical analysis and their use in drawing conclusions from data collected in surveys and in the laboratory. Topics covered include descriptive statistics, probabilities, confidence interval estimation of population parameters, tests of significance, correlation and regression, and analysis of variance. (4 units)

GPSC 511 Psychological Statistics II

Correlational techniques, partial correlation, regression analysis, analysis of variance, simple and complex experimental design, analysis of covariance, multivariate analysis. (4 units)

GPSC 515 Experimental Design and Program Evaluation I

This course provides an overview of research design in psychology with emphasis both on the implementation and the evaluation of psychological research studies. Specific topics include: the scientific process, external validity, construct validity, internal validity, experimental, quasi-experimental and non-experimental designs and conclusion validity. The goal is to establish a firm foundation in the fundamentals of research design that will allow students to both design their own research projects as well as critically evaluate studies in the psychological literature. (4 units)

GPSC 520 Descriptive Psychopathology

In depth analysis of diagnostic criteria for major categories of psychopathology which covers the concept of illness, schizophrenia, affective disorders, anxiety disorders, organic brain disease and personality disorders. This course also introduces neurological evaluations. (4 units)

GPSC 521 Theoretical Psychopathology

In-depth analysis of contemporary, psychosocial, cognitive and biological theories concerning the major forms of psychopathology. Emphasis is placed on recent empirical findings regarding the etiology of mental disorders. (3 units)

GPSC 530 Introduction to Neuropsychology

Description of major theories of neuropsychological development, role of brain function in normal and abnormal human behavior, and findings from neuropsychological research in adults and children are discussed in detail. (4 units)

GPSC 540 Learning Theory

Theoretical overview of various learning theories and models as they apply to human behavior change in clinical intervention. Behavioral, cognitive, social, vicarious learning and conditioning paradigms and their applications to diagnoses and therapy are covered. (2 units)

GPSC 541 History and Philosophy of Science

Historical antecedents through contemporary positions involving philosophy and clinical developments are analyzed and critiqued in the framework of current knowledge, problems and future directions. (3 units)

GPSC 560 Tests and Measurement and Cognitive Assessment

Theoretical and practical issues of test construction and measurement are considered in depth along with issues of development, standardization and validation of psychological tests. Theory of assessment of adult intellectual functioning and practical application of the WAIS-R are included. (4 units)

GPSC 567 Neuropsychological Assessment

Use of psychological tests in the evaluation of the relationship between brain and behavior. The goal of this course is to acquaint students with modern neuropsychological approaches to normal and abnormal behavior along with methods of assessing the neurological basis of behavioral problems. (4 units)

GPSC 570 Physiological Psychology

Examination of human physiological processes as these relate to biobehavioral models of normal and abnormal functioning in appetitive, motor cognition and affective systems. Includes introduction to psychopharmacology and also neuroanatomy laboratory. (4 units)

GPSC 571 Independent Study

Independent study course which would involve students to typically work one on one with instructor. This course would typically involved the reading of articles, meeting with the instructor to gain more knowledge in a certain area, and possibly mini quizzes, etc. (1-3 units)

GPSC 575 Social Psychology

In-depth discussion of theory and research contribution to social functioning, development, and organizational issues. The utilization of social psychological principles in applied settings will be examined. (3 units)

GPSC 664 Personality Assessment

Theory and application of objective psychological tests for the assessment of personality and personality development. (4 units)

GPSC 665 Personality Theory

Introduction to personality theory and research. Major personality theories are covered with an emphasis on current approaches, empirical bases and clinical applications. The focus is on normal personality, but the relationship between normal and abnormal personality are discussed. (3 units)

GPSC 690 Cognitive and Behavior Therapy

Current application of learning principles and techniques of therapeutic change and problems encountered in practical applications. Emphasis is on methods and procedures effective in the elimination of inappropriate behaviors and the acquisition and maintenance of appropriate behaviors. (4 units)

GPSC 695 Theories of Psychotherapy

Survey of major theories of psychotherapeutic and intervention strategies from both clinical and research viewpoints will be discussed. (4 units)

**GPSC 750 Advanced Physiological Research Seminar –
GPSC 570 Lab**

This introduction to human neuroanatomy involves examination of the gross brain, sections, and slides. Students will learn to identify structures and their function, especially those pertaining to the course content of Physiological Psychology 1070. (1 unit)

GPSC 751 Health Psychology and Behavioral Medicine I

An overview of representative content areas and conceptual approaches to health psychology/behavioral medicine. Considers the concepts of stress and coping; autonomic and immune function; endocrine parameters and epidemiological approaches to outcomes in cardiovascular disease, cancer, diabetes, obesity and the addictions. (4 units)

GPSC 754 Life Span Developmental

The course is a basic developmental course covering the entire life span from biological, social, and cognitive perspectives. Special emphasis will be placed on the unique methodological features of developmental research. The course will complement training in all three aspects of the program, namely clinical, health, and neuropsychology. (2 units)

**GPSC 755 Ethical Issues and Professional Standards in
Clinical Psychology I**

The course is designed to introduce the doctoral student to professional training in clinical psychology. A broad range of topics are reviewed including professional training, specialization within clinical psychology, professional ethics, and career development. Emphasis is placed on the student's development of a comprehensive understanding of ethical principles and issues affecting the practice of contemporary clinical psychology. (1 unit)

**GPSC 756 Ethical Issues and Professional Standards in
Clinical Psychology II**

The course examines practice guidelines including the Clinical Psychologist Licensing Act. It also examines ethical and legal guidelines for advertising, confidentiality, custody, malpractice and other forensic issues. (2 units)

GPSC 759 Minority Issues in Mental Health

Assessment and therapeutic treatment of diverse populations with special emphasis on American ethnic/racial groups. Emphasis on specific problems associated with age, race, disability, religious preferences, etc., and how these affect the counseling relationship. (3 units)

GPSC 784A (Therapy) & GPSC 784B (Assessment) Professional Seminar in Clinical Fundamentals

The second year practicum will include a summer seminar prior to beginning of practicum and a bimonthly meeting throughout the academic year. Students will be cross-trained in assessment and therapy skills regardless of their specific practicum placements. Initial sessions will include microskills and clinical interviewing training. Later sessions will include review of psychological tests to be used at respective practicum sites and didactics on topics such as multidisciplinary committee meetings, individual education plans, specific therapeutic interventions and special populations. During the academic year, hour-long meetings will be held twice a month and will essentially serve as support to the individual supervision received at respective sites. The meetings will primarily focus on case conceptualization skills and remediating skills necessary for particular practicum sites. (1 unit each)

GPSC 789 Developmental Psychopathology

This course will present an empirically-based developmental psychopathology perspective, with an emphasis on scientific issues and methods. It will explore advanced conceptual models of developmental psychopathology for a range of syndromes, focusing on those that develop in childhood and may continue through the lifespan. With each syndrome, biological, genetic, familial, and social-cultural risk and protective factors will be considered. (4 units)

GPSC 800 Clinical Practicum

Clerkship in clinical inpatient and outpatient psychiatric, psychological and medical settings. Under direct supervision of psychologists (or in selected instances psychiatrists), this typically takes place throughout the student curriculum. (Credit to be arranged)

GPSC 850 Research Practicum

Individual research practicum with faculty members of the department of psychology along with research experiences with clinical faculty and affiliated institutions. The duration of these experiences typically encompass the entire year. (Credit to be arranged)

GSCS 724 Ethics in Biomedical Research

This course will cover a variety of topics that are related to the responsible conduct of research in the biomedical sciences. The topics include scientific integrity in the gathering and reporting of data, proper allocation of credit in collaborative studies and the various types of misconduct that are seen in research. The ethical use of animals and human subjects will also be discussed. Furthermore, current issues concerning the societal role of the academic scientist in dealing with the media, commercialized research, etc. will be presented. The course is structured along federal guidelines on scientific integrity as part of research training and is aimed to prepare students for the various ethical situations that may arise during the course of a research career. Fall quarter, one hour per week. (1 unit) Offered every year. Faculty.

Elective Courses

GPSC 571 Independent Study

Independent study course which would involve students to typically work one on one with instructor. This course would typically involve the reading of articles, meeting with the instructor to gain more knowledge in a certain area, and possibly mini quizzes, etc. (1-3 units)

GPSC 632 Child Neuropsychology

Goal of this course is to provide an introduction to the issues and principles involved in the neuropsychological evaluation of children. A basic theme will be an examination of the unique considerations involved in the assessment/interpretation of test data from a developmental neuropsychological perspective. (2 units)

GPSC 700 Psychology of Aging

Effect of aging on emotions, intellectual functions, sensation and social interaction and life-style. Topics are discussed from a theoretical and clinical view point. (3 units)

GPSC 704 Family, Parent and Child Therapy

Behavioral approaches to intervention in behavioral difficulties within the family. The treatment of children is discussed primarily from a practical viewpoint. The efficacy of various therapeutic regimes is evaluated. (2 units)

GPSC 744 Child Psychopathology

This course emphasizes the developmental aspect of abnormal personality processes in children and adolescence. Specific disorders of behavior and affect in the pre-adult years will be examined. (2 units)

GPSC 752 Health Psychology and Behavioral Medicine II

The specific utilization of intervention strategies, both behavioral and psychophysiological, as these can be applied to individuals, families, groups and organizations. Specific behavioral deficits and life style difficulties leading to potential risk for physical disability will be examined. (4 units)

GPSC 753 Group and Social Systems Psychotherapy: Theory, Research and Application

Course dynamic theory and research on groups and social systems focusing on small and large group dynamics and intergroup relations will be examined in the first three sessions of the course. The work of Bion, Cytrynbaum, Edelson, Frued, Horowitz, Lipgar, Mann, Rice, and Wheelan will be presented in a lecture-discussion format. During the first four sessions, one hour of class will consist of continuing lecture discussion based upon student reading summaries and research-observational reports from students. The second hour will be used for an experiential small group in which the focus will be on group-as-a-whole dynamics. The latter four sessions of the course will emphasize the application of group and systems theory and research and experiential learning to topics including therapeutic groups, milieu therapy, work and problem solving groups, educational groups, organizational leadership and change, and consultation to human delivery systems. (2 units)

GPSC 757 Seminar in Psychoanalytic Therapy

Since its inception, a number of changes have occurred in psychoanalysis in both theory and technique and the pace of change keeps increasing. Starting with Freud, we will survey and apply the ideas of a number of "post-Freudian" analysts to our current clinical work. (2 units)

GPSC 758 Managing Care and Risk in Psychological Practice

Managed care's impact on the practice of psychology has caused a great deal of conflict and change. Many psychologists are not adequately prepared to deal with this impact on their practices. This course will provide: 1) an understanding of healthcare financing and managed care's evolution; 2) an understanding of the various types of managed care and third-party payors; 3) methods in which to structure one's practice, agency, or facility as to best operate within managed care; 4) methods of mitigating risk; 5) examples of legal issues and precedents; and 6) strategies for the future. (2 units)

PY3064 Psychopathy

This course is designed to provide broad exposure to theoretical perspectives and methodological approaches that influence contemporary research on psychopathy. Through discussion of readings, the course is also designed to develop in-depth understanding of pitfalls in and contributions of contemporary research to our understanding of the psychopathology and etiology of this disorder. Finally, the course also provides students with practice in formulating research questions and designs and in writing grant proposals. (3 units)

GPSC 765 Clinical Psychopharmacology

This didactic course will cover the principles and practice of psychopharmacotherapy of the major psychiatric disorders. Topics covered include pharmacokinetics, pharmacodynamics, and mechanisms of action of the commonly used drugs in neuropsychiatry. This psychopharmacologic treatments of mood disorders, psychotic disorders, anxiety disorders, substance-related disorders, neurodevelopmental disorders and personality disorders will be emphasized. Also covered are drug treatments in the elderly, during pregnancy, and in the medically ill. Electroconvulsive therapy will also be discussed. Readings will be assigned. (1 unit)

GPSC 770 Pediatric Psychology Seminar

The Pediatric Psychology Seminar is an upper level course designed to help students apply their clinical skills to a pediatric setting. The course has an extensive reading list that includes both book chapters and articles from peer-reviewed journals. The first half of the course focuses on general issues in pediatric psychology that are relevant to clinicians, regardless of the child's specific medical diagnosis. Among the topics covered in this section are: developmental issues, family issues, cultural and ethnic issues, adaptation and coping to illness, and adherence to medical regimens. The second half of the course focuses on specific medical diagnoses and addresses the specific emotional and behavioral issues associated with that disease. Among the diagnoses discussed are asthma, diabetes, HIV, cystic fibrosis, and solid organ transplant. (2 units)

GPSC 771 Cardiac Psychology Graduate Seminar

This course will offer an overview of psychological issues and theories of history relevant to heart disease. It will give background information on heart disease, clinical issues and research, risk factors managements and research, and other issues of heart disease. (1 unit)

GPSC 773 Topics in Medical Neuropsychology

Neuropsychology has traditionally focused attention on diseases of the central nervous system with little consideration to diseases of other organs and systems that could compromise cerebral integrity and disrupt cognition and behavior. Each organ system contributes in unique and specialized fashion to maintaining the integrity of brain functioning. This elective will address the consequences of disturbed functioning of organs and organ systems such as the pulmonary system, cardiovascular system, renal system, hepatic system, pancreas, and thyroid. Discussion will also focus on the various factors that can influence the cognitive performance of medically ill patients (such as stage of illness, age of disease onset, treatment effects) and the impact cognitive/behavioral deficits can have on the patient's independent functioning/quality of life and on their medical management. In addition to lecture and readings, students will be responsible for a short paper and a class presentation based on this paper. A take-home exam final is anticipated. (2 units)

GPSC 774 Introduction to Pediatric Psychiatry

The first part of the course focuses on child development. Direct observation of children is provided by visits to schools, child-centered agencies in the community, videotapes and films. The second part of the course introduces diagnostic procedures. Videotapes of diagnostic interviews with children, adolescents, and parents are combined with lectures reviewing the common syndromes in child psychiatry. Readings focus on diagnosis and treatment, including play therapy. (2 units)

MNSC 501 Medical Neuroscience

A multidisciplinary approach to the structure and function of the nervous system is presented by faculty from the Departments of Biological Chemistry and Structure, Cell Biology and Anatomy, Neurology, Pharmacology and Molecular Biology and Physiology and Biophysics. This course provides a broad introduction to modern neurobiology by lecture, laboratory demonstration and conference sessions. The goal of the course is to correlate the structure with the function of the nervous system in man and other animals under normal, as well as drug- or disease-modified conditions. (8 units)

GPSC 781 Effective Behavioral Risk Interventions

This class will review several programs in smoking cessation, weight loss, exercise, dietary change, and medication/treatment adherence, but the main focus will be on the psychological, social and environmental factors and processes involved in creating sustainable, long-term change in these areas to reduce health risks. (1 unit)

GPSC 782 Neuropsychology of Emotion

This class will provide an overview of the neuroanatomy, neurophysiology, and neuropsychology of emotion, as well as major biologic theories/models of emotional processing. Additionally, several classes of psychiatric illnesses (including affective disorders, anxiety disorders, and schizophrenia) will be explored from the standpoint of biologic etiology, and their respective presentations will be examined in terms of underlying cognitive and emotional deficits. (2 units)

GPSC 783 Family Systems and Therapy

In this course students are introduced to major models of family therapy. Primary theorists and techniques of each model will be considered. Lectures, class discussion and small group interactions are included. Students will gain a working knowledge of some of the major family systems models; they will also explore and understand the theories and techniques applicable to each model; explore a variety of family systems with an emphasis on understanding cultural, gender, and sexual orientation differences as they relate to family therapy; understand and complete assessment procedures with particular emphasis on genogram construction and interpretations and finally examine ethical issues as they relate to the practice of family therapy. (3 units)

GPSC 785 Professional Issues Seminar

This 2-credit elective is open to all students. Department of Psychology alumni will lead most of the seminars. A variety of topics will be discussed: Professionalism in the Medical Setting; Lever of Care/Emergency Room Assessments; Substance Abuse Evaluations; Working with the Developmentally Handicapped & the DCFS System; Working with the

School System to advocate for special education services; Alternative Career Paths; Developing a Fee for Service Clinic/Practice; Integrating Research into one's Clinical Practice; and Organizing and Managing Clinical Drug Trials. Speakers may have handouts/articles for your reference. (2 units)

GPSC 786 Clinical Medicine for Psychologists

This is a didactic course covering the major medical disorders and their behavioral/cognitive implications. The major illnesses within the following disciplines will be discussed: endocrine disorders, cardiology, gastroenterology, infectious disease, hematology/oncology, nephrology, neurology, pulmonary medicine and rheumatology. The epidemiology diagnosis, differential diagnosis, clinical manifestations, basic pathophysiology, laboratory findings, course of illness, and treatment will be covered in detail from a medical perspective. Readings will be assigned. Prerequisite: Graduate-level physiological psychology. (2 units)

GPSC 788 Forensic Psychology

This course will offer a survey of the history of forensic psychology, landmark cases, relevant American law, frequently used statutes and guidelines in criminal cases (e.g., sanity, competency and diminished capacity) and hybrid criminal/civil matters (e.g., sex offender commitment), ethical guidelines and professional issues. (2 units)

Faculty

John Burns, PhD, Professor

John Calamari, PhD, Acting Chairman and Associate Professor

Chinni Chilamkurti, PhD, Clinical Associate Professor

Roland J. Erwin, PhD, Associate Professor

David S. Kosson, PhD, Associate Professor

Lawrence C. Perlmutter, PhD, Professor

Michael Seidenberg, PhD, Professor