2017-2018 CATALOG

THE CATALOG IS SUBJECT TO CHANGES APPROVED BY THE LHSI BOARD OF TRUSTEES. NOTIFICATION MUST BE GIVEN TO ALL STUDENTS WITH A NEW COPY OF THE CATALOG.

Version 3.9 Effective January 1, 2016 revised May 15, 2017
Larkin University is a nonprofit institution wholly directed by Larkin Community Hospital, Inc. and is registered with the Florida Department of State to do business in as Larkin University.

**Larkin University Administrative Team**

Jack J. Michel, MD  
Sandy Sosa-Guerrero  
Mercedes Perez de Salazar, DNP, MSN, MBA, PMC-NE, RN, NE-BC  
Gary Levin, PharmD, BCPP, FCCP  
Chairman  
President  
Program Director, Biomedical Sciences  
Dean of Pharmacy

**Larkin University Board Members**

Jack J. Michel, MD  
Sandy Sosa-Guerrero, MBA  
Iris Berges, MBA  
Natasha Anderson, MSW  
Mario Almeida-Suarez, MD  
George Michel, MD  
Jorge Fernandez  
Lucia Obregon  
Carlos Pereira  
Patrick Vilar, Esq.  
Elaine Lefkowitz  
Ileana Rodriguez, CRS, CDPE, TRC  
Marcos Junges, ARNP  
Chairman  
President  
CEO, LCHPSC  
CEO, LCHBHS  
Chief of Staff  
VP & Medical Director LCH  
Consumer  
Administrator MDC  
Consumer  
Attorney  
DOE, NSE College of OM  
Real Estate Broker  
Medical Professional

**Inquiries, Applications and Credentials**

Larkin University  
18301 North Miami Avenue  
Miami, FL 33169  
General Number (305) 760-7500  
Web address: www.Ularkin.org

The Institute is licensed by the Commission for Independent Education, License # 5133. Additional information regarding this institution may be obtained by contacting the Commission at 325 West Gaines Street, Suite 1414, Tallahassee, Florida 32399-0400, or toll-free telephone number (888) 224-6684.

**Disclosures:**

**Biomedical Sciences**
The Masters of Biomedical Sciences degree at Larkin University is accredited by the Accreditation Council for Independent Colleges and Schools (ACICS). ACICS is no longer recognized by the USDOE. Credits earned at Larkin University may not be transferable to other Institutions or universities. Please, be advised that most Medical or Dental schools will not accept Masters Graduate courses as transferable credit for their professional school.
**College of Health Sciences**
Before our Radiologic Technology Students can sit for the certification examination The Radiologic Technology Program needs to be accredited by the Joint Review Committee on Education in Radiologic Technology.

**College of Pharmacy**
The Larkin University College of Pharmacy program has been granted Pre-candidacy status. Pre-candidacy status does not carry with it nor imply an accreditation status. For an explanation of the ACPE accreditation process, consult the Office of the Dean or the Accreditation Council for Pharmacy Education, 135 South LaSalle Street, Suite 4100, Chicago, Illinois 60503, 312-644-3575; FAX 312-664-4652; website www.acpe-accredit.org.

**Notices**
Larkin University does not discriminate in the admission or progression policies of students, scholarship and loan programs, or other activities administered by the institute on the basis of race, religion, national or ethnic origin, gender identity or expression, sexual orientation, marital status, non-disqualifying disability, age or military or veteran status. We are committed to providing a diverse and inclusive environment for students, faculty, staff, and others in the Larkin community.

Larkin University only considers applicants that are US citizens or hold a valid Permanent Resident/Resident Alien (green) card issued before February 2, 2016. We are not currently accepting coursework from foreign colleges and universities.

Larkin University reserves the right to change requirements or fees at any time during the student’s period of study and will notify students of any changes through written communication. Larkin Health Science Institute also reserves the right to dismiss, suspend or impose probation on any student who does not conduct academic affairs with honesty and integrity. Students who are suspected of cheating, plagiarism, falsification of records or otherwise misrepresent themselves and/or their work will be subject to procedural due process. Each College within Larkin Health Science Institute provides more detailed information in this catalog. The information in this catalog supersedes all previous regulations, including tuition and fees previously published.
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MISSION STATEMENT
To develop an academic community engaged in teaching, research, scholarship, and service that provides an opportunity for individuals aspiring to health science careers to prepare for professional studies in medicine, dentistry, pharmacy, and research.
• Prepare students to successfully further their education in health sciences, medicine, dentistry, pharmacy, and graduate research programs.
• Promote and support intellectualism and humanism, emphasizing life-long learning, growth and development.
• Encourage advances in the development of solutions that promote the common good of medicine and society.
• Prepare students to get jobs in their chosen field.

The Institute nurtures and values cultural, social, and intellectual diversity, and welcomes faculty, staff, and students of all traditions.

CORE COMMITMENTS

KNOWLEDGE AND SCIENCE-BASED MEDICINE
Larkin University promotes and supports intellectualism and humanism, emphasizing life-long learning, growth and development. The Institute pursues scholarly and critical analysis of fundamental questions of Biology, Sociology, Psychology and Medicine. With education and research, the Institute advances the development of solutions that promote the common good of medicine and society.

INCLUSIVE COMMUNITY
Larkin University is a global, inclusive community characterized by relationship, compassion and respect for self and others. The Institute nurtures and values cultural, social and intellectual diversity, and welcomes faculty, staff, and students of all traditions. The Institute was founded upon the caring and giving of a community hospital.

DYNAMIC LEARNING ENVIRONMENT
Larkin University enjoys an integrated relationship with Larkin Community Hospital. The student interaction with MDs, DOs, PhDs, DNPs, PharmDs, PAs, etc. will provide a unique environment that fosters active learning. The hospital already supports a nursing school and the largest DO residency training program at a hospital in the United States and offers training more than 36 specialties.

HISTORY
Larkin University has evolved from the operation of Larkin Hospital, a community-based hospital that prides itself as a "teaching hospital" and has the largest Osteopathic Medical Doctor training residency in the United States. As health-care began to change with the increased need of medical doctors and other healthcare professionals, Larkin Community Hospital saw itself as the center of what was most needed for the education of the new healthcare professional-access to experiential training.
PHILOSOPHY
The philosophy of Larkin University is consistent with the mission of Larkin Community Hospital: To provide access to compassionate care of the highest quality in an educational environment.

Our obligation to the graduates of Larkin University: Our faculty is committed to helping students achieve their goals and producing graduates who can make a difference as leaders in the international health care community.

Existing as a scholarly community, we are committed to the highest academic standards in graduate education.

As part of Larkin Health Sciences Programs students will learn to grow as individuals committed to lifelong learning and community research.

Our obligation to the community: To provide an educational program that reaches out the local community in the form of service and research. Through health fairs, fundraisers and research projects we strive to address issues related to health care while, simultaneously providing direct patient interaction for the students.

Graduate students are self-directed learners. Achievement of the behavioral objectives of the Programs requires intense commitment, motivation and initiative. The student is responsible for his/her success in their respective program.

The faculty serves as facilitators of learning, providing direction and support to students. Faculty is committed to the responsibilities of teaching, guidance and professionalism, and provides individualized instruction and counsel as needed. Techniques for facilitating learning vary with the topic and objectives.

BUILDINGS & FACILITIES
CLASSROOM AND ADMINISTRATIVE BUILDING
The building, located at 18301 North Miami Avenue, includes classroom and administrative offices for Pharmacy, Biomedical Sciences as well as Office of the President, Office of Outreach and Admissions, Office of Financial Services, Office of the Registrar, Information Technology, Library, and Campus Security.

ADMISSIONS
Anyone wishing to pursue studies at Larkin University must complete an application to the desired program. Specific application requirements are available for each individual program in the appropriate section of the catalog.

All documents submitted to support admission to Larkin University become property of the Institute and cannot be returned or photocopied. Any misrepresentation or concealment of previous Institution registration or coursework, academic or disciplinary record, both in undergraduate or graduate programs may immediately cancel and nullify the application or admission to Larkin University. Students
should refer to the program specific information for any policies and procedures or program requirements for the duration of the program of study.

**ACTIVE/INACTIVE STATUS**
A student remains active unless not enrolled in consecutive terms. If a student is not enrolled in two consecutive terms (e.g. Fall/Spring; Spring/Summer) he/she will become inactive. When readmitted, he/she will be required to meet admission and program requirements in place at the time of readmission. See section entitled “Readmission” in the specific program.

**READMISSION**
Students who have been academically inactive for at least one calendar year and who wish to be readmitted must comply with the specific policies and procedures for their respective program as specified in the catalog. Students are advised to meet with the Dean of the program or the admissions counselor for the specific program in addition to meeting the requirements outlined in the catalog.

**CHANGE OF ADDRESS/PHONE**
Prospective and current students are responsible for updating any changes in address, email or telephone number with the Registrar. All changes must be submitted, in writing, and sent to the Registrar. Larkin University does not accept responsibility for communication sent to an incorrect address if no change of address has been submitted in a timely manner.

**NAME CHANGE**
Prospective and current students are responsible for informing the Registrar in writing of any name change. This information must be supported by official documentation (e.g., marriage license, court documentation).

**INTERNATIONAL APPLICANTS--CERTIFICATION OF ELEGIBILITY (Form 1-20 A)**
Larkin University is—at this time—not eligible to issue an I-20 to international students.

**TUITION MANAGEMENT**

**INSTITUTE PAYMENT AGREEMENT**
The student will complete an enrollment agreement upon acceptance to Larkin University outlining the tuition and fees, method of payment, cancellation and refund policy, refund from dropping individual courses (when applicable) or registration, refund schedule, grounds for termination, and graduation requirements.

Any student that defaults on the agreed method of payment and payment schedule is immediately responsible for the entire balance. Delinquency in payment may result in assignment to a collection agency, an attorney, or both. The student agrees to waive demand, notice of non-payment, and protest. The student is required to pay the full balance plus any late payment fees, collection agency fees, attorney’s fees (including a reasonable hourly attorney’s fee for time spent by a for-hire or in-house attorney), court costs, and all other charges associated with the collection of this debt. Any student who defaults on the debt
authorizes Larkin University to disclose any relevant information to a credit bureau organization and collection agencies. The student also authorizes Larkin University to contact a student’s employer.

STATEMENT OF RESPONSIBILITY
In consideration of acceptance for enrollment at Larkin University, the student and/or guarantor guarantee the payment of all costs for tuition, fees, and all other financial obligations incurred while in attendance at the school. Payment for all programs begins on the first day of matriculation into a program and must be completed at the time the degree is awarded.

In addition, all financial obligations to the school must be met as a condition of graduation and participation in commencement ceremonies.

At Larkin University, the purpose of the Director of Financial Services is to act in partnership with students to provide the necessary guidance in financial planning related to enrollment. Students are encouraged to contact the Director of Financial Services for information and assistance.

The following terms and conditions are financial requirements of your education related to this registration.

- Once you formally register for classes, you assume the responsibility for understanding Larkin University official policies concerning schedule changes, satisfactory academic progress and the financial policies of the Institute as described in the catalog.

- Registration constitutes a financial agreement between you and the school. Tuition, fees and other charges you incur, including but not limited to health insurance and bookstore charges ("Charges"), may be added to your student account as appropriate in the Institution-specific fees. Any Charges are the responsibility of the student and shall be paid within the term in which the Charges incurred. Students assume responsibility for all costs incurred as a result of enrollment at Larkin University. It is the student’s responsibility to be aware of their account balance to and maintain current valid postal address information at all times to ensure receipt of all school correspondence in a timely manner. Students are expected to check their e-mail on a frequent and consistent basis in order to stay current with school-related communications. The school reserves the right to cancel registration of any student if a balance due from a previous term remains unpaid at the start of a subsequent term.

*The school reserves the right to recover all costs related to the collection of delinquent accounts, including attorney's fees.

FLORIDA PREPAID COLLEGE PROGRAM
If you wish to apply Florida Prepaid to your semester's charges, you must bring an updated copy of your Florida Prepaid card to the Associate Director of Financial Services at the time of registration. The Associate Director of Financial Services will assist you in filling out the necessary paperwork required and bill Florida Prepaid on your behalf.
SPONSOR OF THIRD PARTY BILLING
Students who are eligible to receive third party sponsorship are required to submit proof of sponsorship at the time of registration. This paperwork must be submitted with each registration. It is the student’s responsibility to make sure that payment is made upon submission of third party billing.

REFUND POLICY
Should a student’s enrollment be terminated or cancelled for any reason, all refunds will be made according to the following refund schedule per the individual Institution.

REFUND FOR DROPPING INDIVIDUAL CLASSES
The Drop/Add period is the first week (5 business days) of the term.
The Institute refunds in full tuition for classes dropped by the last day of the Drop/Add period.
There is no refund of tuition for individual courses dropped after the last day of the Drop/Add period.

REFUND FOR WITHDRAWING FROM REGISTRATION
Withdrawal is defined as the dropping of one’s entire program in a given term as differentiated from dropping some, but not all, of one’s courses. Students who withdraw from a term are charged a $75 withdrawal fee and tuition and fees are charged according to a schedule set by the Office of the Registrar. Refunds will be made within 30 days. Application fees, late fees, and research fees are not scalable.

TERMS OF PAYMENT

CREDIT BALANCES
When there are credit balances on student accounts due to overpayment of charges, students may request a refund of the balance.

DEBIT BALANCES
If there is a debit balance after calculation of all anticipated charges and payments, students should make payments for the balances by the appropriate deadline. Payments can be made in electronically or in person with the Business Office.

After the payment due date is past, a one-time late payment charge ($150) and late payment fees may be assessed on the unpaid balance. Students may also be dismissed.

Fellowships and loan proceeds are credited to student accounts following the registration period. Late payment charges or late fees may be assessed on remaining charges not covered by fellowship.

The Business Office has automated the process of issuing refund checks. All credit balances generated by supplemental monies will be automatically issued and mailed to your preferred address in the Registrar’s system. Please make sure your address is correct with the Office of the Registrar to ensure you receive your checks. To simplify the disbursement of your funds, direct deposit is available. Refunds are disbursed within 14 calendar days from when the credit balance has been created or 14 calendar days from the start of the term whichever date is later.
Note: If a credit card payment was made to your account within 90 calendar days of the refund date, funds will be issued to the credit card first. Any additional credit that remains will then be issued to you. The refund of a credit balance is not intended as a final accounting of all charges incurred on your account.

STUDENT SERVICES
Under the supervision of the Program Director/Dean, Student Services are in place to assist students with their various needs. The goal of effective and worthwhile student services is to assist students and to directly involve the students in the affairs of the institution, fostering a sense of community among students, faculty and administration. Student Services Include: Student Development, Academic Advising, and Placement Services.

STUDENT RIGHT TO KNOW ACT
Larkin University is in compliance with the Student Right-too-Know and Campus Security Act (PL 101-542).

DISCLOSURE OF GRADUATION RATES
Larkin University has established a process to track and measure graduation outcomes. Graduation outcomes may include the measurement of passing individual fields of study, performance on board exams and successful entrance into doctoral, post-doctoral or residency programs.

CRIME AWARENESS AND CAMPUS SECURITY
Larkin University has established a process to collect and report crimes on campus and make it available to students through the Office of Public Safety. An "annual crime report statistics" document will be compiled and made available to any student or employee applicant and to any current student or employee. Also, Larkin University will continue to adopt and implement security measures to prevent crime on the campus, establish uniformity and consistency in reporting of crimes and encourage the development of policies and procedures to address sexual assaults and racial violence.

The Larkin University main building has entry by key card managed by Stanley Security. All students are issued key cards at student Orientation. In the event the student loses the key card, they must report it to the facilities manager immediately in order to deactivate the card. The student can then purchase a replacement key card for $20.

All doors remain locked for all hours for the safety of the students. Any visitor or person without a key card can ring a bell at either entry which will send a signal to the facilities manager during normal working hours. The facilities manager will be able to visualize and speak to the individual through a smart phone and grant entry if the guard is not at the front door.

An on-site security guard will be housed at the west entrance of the building and will be available during specific hours in which the building is accessible to students. Entry will be monitored and adjusted as a usage pattern is determined to meet the needs of the student body. For additional security, LHSI has a series of cameras that project onto a computer screen which will be monitored by the security guard.
For added security of LHSI students and employees, the parking lot and the premises are well lit with shopping mall style lights with photo sensors. The lights come on at dusk and stay on until dawn. Security will also monitor this area and will escort students to the vehicles upon requested.

**PUBLIC SAFETY**
The Facilities Management Department at Larkin University is committed to working with the community to facilitate the development and maintenance of a safe environment and support the continued evolution of the Larkin University mission. A safe campus is everyone’s responsibility. Do your part to protect yourself and others. Increased awareness by all of us can help prevent crime and keep our community safe. Crime prevention and awareness is not the sole responsibility of the Public Safety department. It is a joint venture with the community, which it serves.

The Facilities Management Department provides information, assistance, and service to aid campus occupants in the protection process.

**EMERGENCY NUMBERS**

<table>
<thead>
<tr>
<th>Larkin University</th>
<th>305-284-7790</th>
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<tbody>
<tr>
<td>Public Safety Office</td>
<td></td>
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<tr>
<td>Public Safety Office (mobile)</td>
<td>305-608-9166</td>
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</tbody>
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<table>
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<tr>
<th>Miami-Dade</th>
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<tr>
<td>Dade County Emergency</td>
<td>911</td>
</tr>
<tr>
<td>Metro Fire-Rescue</td>
<td>305-759-2468</td>
</tr>
<tr>
<td>Metro-Dade Police (Non-Emergency)</td>
<td>305-595-6263</td>
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<tr>
<th>Additional Resources</th>
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<tr>
<td>Rape Hotline</td>
<td>305-585-7273</td>
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Sexual Predators and Offenders (Miami-Dade)

National Sex Offender

Public Safety Office (Non-Emergency)
Hours: Monday - Friday 9am - 5pm

The Public Safety department’s function is primarily informational and advisory, rather than regulatory. Public Safety personnel are not police officers.

**OFFICE OF THE PRESIDENT**
The Office of the President supports the intellectual and personal development of all students through providing a combination of advocacy, programming, and services that enhance the academic community, including the disciplinary process.
DISABILITY SERVICES

STUDENTS WITH DISABILITIES
Services for Larkin University students with disabilities are provided by the Office of Student Affairs and Admissions (OSAA) in the Pharmacy (COP), as directed by the Assistant/Associate Dean for Student Affairs and Admission (ADSAA). Services are provided to permit equal access to otherwise qualified students with disabilities to all curricular and co-curricular opportunities. In addition, the office provides leadership and guidance to the campus community to ensure compliance with legal requirements for equal access while enhancing understanding and support of students with disabilities. The office supports the caring environment of LHSI through its one-on-one relationships with students and strives to provide a holistic educational experience, which prepares each student to be united and equal with the non-disabled population, while assuring their human and legal rights.

ELIGIBILITY
To be eligible for services, students must be enrolled at LHSI COP. Students with disabilities must identify themselves and present professional documentation to the OSAA. Faculty members are not expected to provide an accommodation unless the student presents verification of needs from the ADSAA.

DEFINITION OF AN INDIVIDUAL WITH A DISABILITY
To be covered by the following procedures, students must have a disability as defined in the Americans with Disabilities Act as:

• A person who has a physical or mental impairment, which substantially limits one or more major life activities
• A person who has a record of such impairment
• A person who is regarded as having such impairment

The ADA also covers:

• Protection from discrimination for individuals based on their relationship or association with a person with a disability
• Retaliation or coercion against individuals who opposed any act the ADA makes unlawful, participated in the enforcement process, or encouraged others to exercise their rights under the ADA
• All individuals, regardless of national origin or status

PROCEDURES FOR OBTAINING ACCOMMODATIONS
Students with disabilities who are requesting accommodations must meet with the ADSAA for an intake interview.

• Students may submit a written request for accommodations at any time, however, the OSAA requires four weeks to process the request after receiving all required documentation. It is suggested that requests for accommodations be submitted at least four weeks prior to the beginning of the academic year. Late requests for accommodations may cause a delay in reviewing and providing the requested services.
• Along with the written request, students must present:
• Documentation of the disability (dated within the last three years) from a qualified provider
• A history of prior accommodations if available
• Specific accommodation requests as determined by the qualified provider

Documentation must be recent (within the last 3 years), relevant, comprehensive, and where appropriate, should contain test scores and interpretation. If the original documentation is incomplete or inadequate to determine the extent of the disability or reasonable accommodations, LHSI has the discretion to require additional documentation. See General Guidelines for Documentation below.

• Any cost incurred in obtaining additional or initial documentation is borne by the student. Until appropriate documentation is provided, the OSAA cannot support the student's request for services.

• A letter outlining the appropriate accommodations will be provided to the student and, after review and discussion with the ADSAA, the appropriate faculty will be notified of the required accommodations.

• Approved accommodations will be in effect for an entire academic year, or the remainder of the academic year in which the student has made the request.

• The ADSAA will provide ongoing support to faculty to implement and sustain the necessary accommodations for students with disabilities.

• Students that wish to renew their accommodations should notify the OSAA within four weeks of the beginning of the term in which they are requesting accommodations.

• Students should schedule an appointment with the ADSAA if they need to modify their accommodation requests, they are experiencing academic difficulties, or they have questions or need advice.

• Accommodations for students with disabilities are granted on a case-by-case basis, in accordance with medical and professional information in the student's record, legal precedent, the COP Technical Standards, Federal and State laws and the national standards for services for students with disabilities. Appeals of accommodation requests may be made through the Disability Appeals procedure, detailed at the end of this section.

GENERAL GUIDELINES FOR DOCUMENTATION
In order to evaluate requests for accommodations or auxiliary aids, LHSI COP will need documentation of the disability that consists of an evaluation by an appropriate professional and describes the current impact of the disability. The documentation should include the following seven elements:

• A diagnostic statement identifying the disability, date of the most current diagnostic evaluation, and the date of the original diagnosis.

• A description of the diagnostic tests, methods and/or criteria used.

• A description of the current functional impact of the disability, which includes specific test results and the examiners narrative interpretation.

• Treatments, medications, or assistive devices/services currently prescribed or in use.

• A description of the expected progression or stability of the impact of the disability over time, particularly the next five years.

• The credentials of the diagnosing professional if not clear from the letterhead or other forms.
• The diagnosing professional may not be a family member.

**APPEAL PROCESS**
The student may appeal any decisions related to their request for accommodations to the Dean of the COP in writing within 10 days of receiving notification from the ADSAA. Any position, paper, brief, medical documentation or other written material, which the student desires to be reviewed, shall be submitted together with the notice of appeal. The Dean shall investigate and respond in writing to the notice of appeal stating his or her decision together with the reasons for either affirming or reversing previous decisions as to an accommodation or auxiliary aid.

**EMPLOYMENT ASSISTANCE**
Although placement assistance may be offered, the institution does not guarantee employment.

**ACADEMIC INFORMATION**

**KNOWLEDGE OF REGULATIONS**
Students are responsible for compliance with the regulations of the school and should familiarize themselves with the provisions of this catalog distributed by the Office of Admissions; posted official notes; and official instructions given to students. While Larkin University provides academic advising; the responsibility for planning individual programs rests with the students. Students are expected to become familiar with the requirements of the institute, of the schools in which they are enrolled, and of their major disciplines.

**POLICY ON RELEASE OF INFORMATION**
Larkin University makes every endeavor to keep the student's educational records confidential and out of the hands of those who would use them for other than legitimate purposes. All members of the faculty, administration and staff respect confidential information about students, which they acquire in the course of their work. At the same time, Larkin University tries to be flexible enough in its policies not to hinder the student, the institution, or the community in their legitimate pursuits.

Original documents submitted by or for students in support of an application for admission or for transfer credit cannot be returned to the student, photocopied, nor sent elsewhere at his/her request. In exceptional cases, however, where another transcript is unobtainable, or can be secured only with the greatest difficulty copies may be prepared and released to prevent hardship to the student. The student should present a signed request to the Office of the Registrar. Usually a certified copy of what is in the student's file is released. In rare instances the original may be released and the copy retained, with a notation to this effect being placed in the file.

Students have the right to access information in their file (per the Buckley Privacy Act, 1974), with the following exceptions:

1. Transcripts-Students must request a copy of the transcript from the originating institution.
2. Health records
3. Confidential recommendations, if
a. The student has waived the right to see the recommendations, and/or
b. The person making the recommendation has noted on the form that the student is not to see the comments.

Students may receive a copy of their records except for the above-listed documents, at the discretion of the Institute official.

The Family Educational Rights and Privacy Act of 1974 (FERPA) defines the guidelines which protect student academic information and determine under which circumstances information may be released.

ACCESS TO STUDENT RECORDS

1. Each student enrolled at Larkin University shall have the right to inspect and review the contents of his/her education records, including grades, records of attendance and other information. Students are not entitled to inspect and review financial records of their parents. Parental access to a student’s records will be allowed without prior consent if the student is a dependent as defined in Section 152 of the Internal Revenue Code of 1986.

2. A student’s education records are defined as files, materials, or documents, including those in electronic format, that contain academic information directly related to the student and are maintained by the institution, except as provided by law. Access to a student’s education records is afforded to:
   a. School officials who have a legitimate educational interest in the records, such as for purposes of recording grades, attendance, advising and determining financial eligibility.
   b. Appropriate parties, including parents, whose knowledge of the information is necessary to protect the health or safety of a student or another individual if there is a significant and articulable threat to the health or safety of a student or other individual, considering the totality of the circumstances.

3. Students may request a review of their education records by submitting a written request to the Registrar. The review will be allowed during regular school hours under appropriate supervision. Students are not permitted to make copies of their educational records or to remove the records from the Registrar’s office. Students may not review sole possession records which are defined as a personal record of Larkin University employees/agents which meets the following test:
   a. It was created by the Larkin University employee/agent as a personal memory aid; and
   b. It is in the sole possession of the Larkin University employee/agent who created it; and
   c. The information contained in it has never been revealed or accessible to any other person, including the student, except the Larkin Health Science Institute employee's/agent's "temporary substitute." "Temporary substitute," as used herein, means an individual who performs on a temporary basis the duties of the Larkin University employee/agent.

Students may request the institution amend any of their education records, if they believe the record contains information that is inaccurate, misleading or in violation of their privacy.
rights. The request for change must be made in writing and delivered to the Registrar, with the reason for the requested change stated fully.

4. Directory information is information on a student that the school may release to third parties without the consent of the student. Larkin University has defined directory information as the student’s name, address(es), telephone number(s), e-mail address, program enrollment, dates of attendance, honors and awards, credential awarded, most recent educational institution attended, full-time/part-time enrollment status, or photo. If a student does not want some or all of his or her directory information to be released to third parties without the student’s consent, the student must present such a request by completing the FERPA Non-Disclosure of Designated Directory Information form to the Registrar within 10 days after the date of the student’s initial enrollment or by such later date as the institution may specify.

5. The written consent of the student is required before personally identifiable information from education records of that student may be released to a third party, except for those disclosures referenced above, disclosures to accrediting commissions and government agencies, and other disclosures permitted by law. A student who believes that Larkin University has violated his or her rights concerning the release of or access to his or her records may file a complaint with the U.S. Department of Education at: 400 Maryland Avenue, S.W., Washington, DC 20202.

COMPLAINTS AND GRIEVANCE PROCEDURES

If any student deems it necessary to file a grievance against an LHSI employee he or she must report such incident to the department of Human Resources. Every effort will be made to protect the privacy of any parties involved. The student is entitled and encouraged to have an informal discussion with the department of Human Services as a first step. If an informal conversation does not result in a satisfactory resolution, or if you are not comfortable speaking about the matter with the Program Director or Dean, then the student should discuss the situation with the President. In cases of discrimination or sexual harassment, LHSI encourages the student to go directly to the President. Any complaint that is not in writing, that is, a verbal complaint, is considered an informal complaint.

After an informal discussion, if the student wishes to file a formal grievance, he/she may submit such in writing to the President. However, before filing a formal charge, the complaining party should first make a good faith effort to meet and confer with the party against whom he or she has a complaint in an effort to resolve the matter. The formal report should contain a statement of the problem or complaint, the facts and details of the situation, pertinent dates and the names and positions of the parties involved. The grievance must be signed and dated. Also, student may withdraw a complaint at any time during the complaint process. A withdrawal must be made in writing to the President.

Upon receipt of a written formal complaint by a student, the President will consider the complaint. After such an investigation, the President will make a determination as to whether the grievance has merit as alleged. If the alleged grievance is deemed justified, LHSI will take whatever steps it deems appropriate to correct any grievance suffered by the complaining student. For unresolved matters, you may contact the Commission for Independent Education, Florida Department of Education, 325 West Gaines Street, Suite 1414, Tallahassee, FL 32399-0400 Toll Free Telephone Number 888-22-6684.
ADVISORS
Students will be assigned advisors upon registration and matriculation to specific programs. Students should meet regularly with their advisors to evaluate progress. Each Department has specific advisor requirements for registration.

ATTENDANCE
Students are expected to attend all classes and laboratory sessions for success at Larkin University. Each course will detail specific requirements for class attendance.

It is the responsibility of the student to initiate a withdrawal during the designated withdrawal period. Otherwise, an F will be issued at the end of the term. Refer to the specific department for procedures related to withdrawals.

TRANSFERABILITY OF CREDITS
Students seeking to transfer credits earned at another postsecondary institution to Larkin University or from Larkin University to other institutions should note that the transferability of credits is at the discretion of the accepting institution. It is the student’s responsibility to confirm whether or not another institution of the student’s choice will accept credits. The policy regarding the evaluation of course content from other universities to determine its equivalency with a course offered at Larkin University is that approximately three-fourths of the course content must match the content of the course offered at Larkin University if it is to be accepted for transfer. For evaluation purposes, students must provide a copy of the course description for the course to be evaluated and the school catalog for the time period during which the course was taken. Evaluations and maximum number of credits allowed for transfer are handled on a case-by-case basis.

Decisions regarding transferability of credits are not necessarily made prior to enrollment. Only students who have been fully admitted to Larkin University may submit their transcripts and course descriptions for evaluation. Students are encouraged to submit official transcripts as soon as possible. Larkin University recognizes credits from accredited higher education degree granting institutions, and will not transfer credits for courses below college level. Evaluation of transferability of credits is performed by the Registrar. On occasion, the Registrar may seek the advice of an expert or faculty member in a specific discipline to perform course evaluations.

* Up to 6 credits will be accepted as transfer credits in the graduate programs. The Biomedical Sciences program does not accept transfer credits.

Such credits must meet the following criteria:
- Only courses for which a grade of A or B was earned will be considered.
• Previously earned credits, if accepted for transfer, will be counted as having been taken in one year of the time limitation to complete the degree.
• Only credits will be transferred, not grades or grade point averages.
• Maximum allowable number of credits transferrable is dependent on the program.
• Domestic credits must originate from institutions accredited by any of the following six regional associations:
  o New England Association of Schools and Colleges, Commission on Institutions of Higher Education
  o Middle States Association of Colleges and Schools, Commission on Higher Education
  o North Central Association of Colleges and Schools, Commission on Institutions of Higher Education
  o Northwest Association of Schools and Colleges, Commission on Colleges
  o Southern Association of Colleges and Schools, Commission on Colleges
  o Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities

REQUEST TO REGISTER AT ANOTHER INSTITUTION
Once matriculated, a Larkin University student is expected to fulfill all coursework at Larkin University; therefore, permission to take courses elsewhere is granted only in exceptional cases for very extenuating circumstances that preclude the opportunity to enroll in the respective course at Larkin University in subsequent terms. Larkin University students who wish to take courses at another institution for the purpose of transferring the credits back to Larkin University must obtain prior written approval from the Dean. Substitute coursework intended to satisfy graduation requirements will only be accepted when the Dean has granted this approval in advance. A copy of the course description from the respective institution's catalog must be included with approval letter from the Dean. Additional documents (e.g., course syllabus) may also be requested in order to validate that the content of the substituted course is comparable to Larkin Health Services Institute’s course. Only credits are transferred, not grades or grade point averages. It is the student’s responsibility to assure that the official transcripts are sent to the Dean who will then send approval to the registrar.

Larkin University accepts transfer credits only from colleges and universities that have regional accreditation (i.e., schools that are accredited by one of the six accrediting bodies) or the Accrediting Council of Colleges and Schools. The Dean will review and approve or deny accepting the credits on an individual basis for credits earned on a case-by-case basis.

TRANSCRIPT REQUESTS
To request an official transcript, students must pay $10 for each transcript, payable on the www.ularkin.org website and complete the Transcript Request form which includes:
• Student current name and complete address.
• Name under which student attended Larkin University, if different from student's current name.
• If currently enrolled, request to hold transcript for current semester grades or degree conferral, if applicable.
• Type of transcript required (e.g., student copy, official transcript to be sent to student in a sealed envelope, official transcript to be sent directly to a third party). If the transcript is for third party use, the name and complete address of the person or institution must be provided.

• The number of transcripts required.

Additional Information:
• Signature must appear on transcript request.
• Transcript request from anyone other than the student will not be honored.
• When requesting transcripts in person, identification is required.
• Transcripts are processed within 3-5 business days upon approval from Bursar.
• Transcripts are sent by first class mail. Larkin University assumes no responsibility for final delivery.

Transcript requests may submitted to:
Office of the Registrar
Larkin University
18301 North Miami Avenue, Suite 1
Miami, FL 33169

Note: If money is owed to Larkin University, release of transcripts, diplomas or other official documents are prohibited.

POLICIES AND PROCEDURES

PROCEDURE FOR APPEAL OF GRADES
Any challenge to grades received in a course, comprehensive examination, thesis, or other graduation requirement will be considered only when the student alleges that the grade received reflects other than appropriate academic criteria, that is, achievement and proficiency in the subject matter as stated in the course syllabus. Information on appeal of grades is specific to each individual program.

Students who are not satisfied with the outcome of their appeals may appeal to the Commission for Independent Education at 325 W. Gaines Street, Suite #1414, Tallahassee, Florida 32399-0400, toll free (888) 224-6684.

SUBSTANCE ABUSE
Larkin University acknowledges the problem of substance abuse in our society and perceives this problem as a serious threat to employees and students. It is the intent of the Institute to establish and maintain a drug-free workplace. It is the school's further intent to comply in every respect with the Drug-Free Schools and Communities Act Amendment of 1989 (Public Law 101-226) as presently constituted to be amended in the future. Larkin University condemns the possession, use or distribution of illicit drugs and the abuse of alcohol and drugs/substances, whether prescriptive or non-prescriptive. Any student or employee found to be in the possession of, using, selling, trading, or offering for sale illicit drugs or alcohol on the school's property or as part of the school's activities will be subject to disciplinary action as well as applicable
local, state, and federal laws. As a condition of employment, all employees and students must abide by the terms of this policy. Under federal law, an employee working under, or student receiving funds from a federal grant or contract, must report his/her criminal drug statute conviction for a violation occurring in the school to the Administration not later than five (5) days after such conviction. If said employee/student is receiving federal grant or contract funds, the school is required to give notice of the conviction to the contracting agency within ten (10) days after learning of it. Employees/students convicted must, under the terms of this policy, have sanctions imposed within thirty days of the date the school Administration learns of the conviction.

SMOKING POLICY
As a location to learn health care, Larkin University and all property owned by such is designated as non-smoking. This includes sitting in cars or walking the perimeter of the property. Smoking in sight of LHSI will not be tolerated.

RELATING TO SEXUAL HARASSMENT
Larkin University seeks to prevent harassment of its students, employees, and those who seek to join the campus community in any capacity. Sexual harassment includes sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature directed toward an employee, student, or applicant, when:

- Toleration of the conduct is an explicit or implicit term or condition of employment, admission or academic evaluation.
- Submission to or rejection of such conduct is used as a basis for a personal decision or academic evaluation affecting such individuals.
- The conduct has the purpose or effect of interfering with an individual's work performance, or creating an intimidating, hostile, or offensive working or learning environment.

The above definition is in line with the Equal Employment Opportunity Commission's regulations on sexual harassment. Larkin University, its officers and employees are responsible for maintaining a working and learning environment free from sexual harassment. Existing disciplinary and grievance procedures or informal procedures, as appropriate, shall serve as the framework for resolving allegations of sexual harassment. Responsibilities include making widely known the prohibitions against sexual harassment and ensuring the existence of appropriate procedures for dealing with allegations of sexual harassment.

LIBRARY SERVICES
The Larkin Health Sciences Library supports the needs of our academic community with a robust and well-appointed collection of print and electronic resources, subject-specific scholarly journals and a library website with a 24/7 gateway to an extensive compendium of knowledge to promote professional and educational achievement. In addition to the print collection, the campus library is ADA compliant, maintains computers with software for scholarly writing and presentations; offers Wi-Fi access to the Internet for academic endeavors and scholarship; houses a printer; an electronic Smartboard; and provides a quiet study environment to cultivate learning and encourage accomplishment. Professional library personnel, accredited by the American Library Association and certified by the Medical Library Association as an Association of Health Information Professional (AHIP) provides students, faculty and
staff with reference consultation and assistance, interlibrary loan services, and information literacy instruction for a successful and enriching educational experience.

Director of Library Services
Sharon R. Argov, MLS
18301 North Miami Avenue
Miami, FL 33139
sargov@larkinhospital.com

REFERENCE SERVICES
The Library provides reference services to support education, research and general information. Library instruction is offered on using print and electronic resources in several ways:

- In the reference area
- Via telephone
- Via electronic mail
- By appointment
- Through bibliographic instruction classes scheduled by the faculty
- The library also participates in a statewide, real-time, reference chat service known as "Ask a Librarian".

The print and online reference collection provides extensive information resources that support the education, research and general information needs of students, faculty and staff.

Reference services are provided during most of the library's hours of operation.

Library Hours
Monday – Friday 8:00 AM – 4:00 PM

GRADUATE STUDENT STATUS
The number of credit hours attempted in a given semester as follows determines a graduate student’s status:

<table>
<thead>
<tr>
<th>Status</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Full-time</td>
<td>8 credits or more</td>
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<tr>
<td>Part-time</td>
<td>1 to 7 credits</td>
</tr>
<tr>
<td>Professor</td>
<td>Credentials</td>
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<tr>
<td>--------------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Lynne Arric, Ed.D.</td>
<td>Ed.D. in Educational Leadership - Lamar University, Beaumont, TX</td>
</tr>
<tr>
<td></td>
<td>M.S. in Counseling and Student Personnel – Oklahoma State University, Stillwater, OK</td>
</tr>
<tr>
<td></td>
<td>B.A. in Psychology – Oklahoma State University, Stillwater, OK</td>
</tr>
<tr>
<td>Sandra Benavides, Pharm.D.</td>
<td>Pharm.D. - University of California San Francisco, San Francisco, CA</td>
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<tr>
<td>Anupam Bishayee, Ph.D.</td>
<td>Ph.D. in Cancer Prevention-Jadavpur University, Kolkata, India</td>
</tr>
<tr>
<td></td>
<td>M. Pharm. – Jadavpur University, Kolkata, India</td>
</tr>
<tr>
<td></td>
<td>B. Pharm. – Jadavpur University, Kolkata, India</td>
</tr>
<tr>
<td>Nishil Desai, PhD</td>
<td>Ph.D. – Mercer University, Atlanta, GA</td>
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<tr>
<td></td>
<td>B.E. – Manipal University, Manipal, Karnataka, India</td>
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<tr>
<td>Mostafa Elgebaly, Ph.D.</td>
<td>Ph.D. - University of Georgia, Athens, GA</td>
</tr>
<tr>
<td></td>
<td>B.S. in Pharmacy – Cairo University, Cairo, Egypt</td>
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<td></td>
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</tr>
<tr>
<td>Name</td>
<td>Degree</td>
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<tr>
<td>Kathleen Jodoin, Pharm.D.</td>
<td>Pharm.D. - University of Florida, Gainesville, FL</td>
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<tr>
<td>Sajish Kuriakose, M.D.S.</td>
<td>M.D.S. in Oral and Maxillofacial Surgery – Government Dental College, College, Kerala, India</td>
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<tr>
<td>Gary Levin, Pharm.D.</td>
<td>Pharm.D. - University of Florida, Gainesville, FL</td>
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<tr>
<td>Donna A. Llerandi, M.S.</td>
<td>M.S. in Math – Nova Southeastern University, Ft. Lauderdale, FL</td>
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<tr>
<td>Name</td>
<td>Qualifications</td>
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<tr>
<td>Nicole Loonsbury</td>
<td>PhD in Medicinal Chemistry (May 2016) B.S. – Worcester Polytechnic Institute</td>
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<tr>
<td>Christina Martinez, M.A.</td>
<td>M.A. in Linguistics – Florida International University, Miami, FL B.A. in Modern Languages – Florida International University, Miami, FL</td>
</tr>
<tr>
<td>Richard C. Mroz, D.A., M.S., BSMT (ASCP)</td>
<td>D.A. in Biology – Catholic University, Washington, DC M.S. in Immunology – Catholic University, Washington, DC B.S. in Zoology – University of Maryland, Baltimore, MD B.S. in Medical Technology – University of Maryland, Baltimore, MD</td>
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</tbody>
</table>
Idelxy Perez, M.D.  
M.D. – Escuela Autonoma de Ciencias, San Jose, Costa Rica  
B.A. in Psychology – Florida International University, Miami, FL  

PSY260 Intro to Psychology

Manuel Pozzoli, M.S.  
M.S. in Marriage and Family – Carlos Albizu University (CAU), Miami, FL  
B.A. in Psychology – Florida International University, Miami, FL  

PSY260 Intro to Psychology

Jordan Sedlacek, Pharm.D.  
PharmD – Ferris State University  

PH 508 Nonprescription Medicine and Self-Limiting Diseases  
PH 515 Endocrine and Metabolic Disorders

Mohammad Nasir Uddin, Ph.D., M.S.  
Ph.D. in Pharmaceutical Sciences - Mercer University, Atlanta, GA  
M.S. in Chemistry – Emory University, Atlanta, GA  
M.S. in Chemistry – Jahangirnagar University, Dhaka, Bangladesh  
B.S. in Chemistry - Jahangirnagar University, Dhaka, Bangladesh  

PH 501 Introduction to Pharmacy  
PH 504 Pharmaceutics I with Extemporaneous Compounding  
PH 506 Pharmaceutics II with Aseptic Technique
<table>
<thead>
<tr>
<th>Name</th>
<th>Education Details</th>
<th>Courses Offered</th>
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<tbody>
<tr>
<td>Jayesh R. Parmar</td>
<td>Bachelors in Pharmacy - Mumbi Educational Trust, Mumbi</td>
<td><strong>PH 501</strong> Introduction to Pharmacy</td>
</tr>
<tr>
<td></td>
<td>PH.D - Pharmacy Administration - Monroe, LA</td>
<td><strong>PH 504</strong> Pharmaceutics I with Extemporaneous Compounding</td>
</tr>
<tr>
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<td><strong>PH 506</strong> Pharmaceutics II with Aseptic Technique</td>
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<tr>
<td>Kalyan Nagulapalli Venkata, Ph.D., M.S.</td>
<td>Ph.D. - University of Southern California, Los Angeles, CA</td>
<td><strong>PH 502</strong> Medical Biochemistry</td>
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<tr>
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<td>M.S. in Chemistry – Illionois State University, Normal, IL</td>
<td><strong>PH 507</strong> Medicinal Chemistry &amp; Pharmacology/Toxicology I</td>
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<tr>
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<td>B.Pharm – Osmania University, Hyderabad, India</td>
<td><strong>PH 513</strong> Medicinal Chemistry &amp; Pharmacology/Toxicology II</td>
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<td><strong>PH 516</strong> Research Methodology and Literature Evaluation I</td>
</tr>
<tr>
<td>Andria Church</td>
<td>B.S - Biology - University of Florida</td>
<td><strong>PH 508</strong> - Nonprescription medicine and self-limiting diseases</td>
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<td>PharmD - Pharmacy - Palm Beach Atlantic University</td>
<td><strong>PH 514</strong> - Respiratory Disorder</td>
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<td><strong>PH 603,4,5</strong> - Neurologic and Psychiatric Disorders I, II, III</td>
</tr>
<tr>
<td>Nicholas Chow</td>
<td>B.S - Biology - University of Florida</td>
<td><strong>PH 501</strong> Introduction to Pharmacy</td>
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<tr>
<td></td>
<td>PharmD - Pharmacy - Palm Beach Atlantic University</td>
<td><strong>PH 504</strong> Pharmaceutics I with Extemporaneous Compounding</td>
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**CREDENTIALS**

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<thead>
<tr>
<th>Program</th>
<th>Credits</th>
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<tr>
<td>Clinical and Translational Research</td>
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<td>Doctorate</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>141</td>
<td>Doctorate</td>
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<tr>
<td>Biomedical Sciences</td>
<td>33</td>
<td>Master of Science</td>
</tr>
<tr>
<td>Clinical Anatomy</td>
<td>36</td>
<td>Master of Science</td>
</tr>
<tr>
<td>Clinical Cellular and Molecular Biology</td>
<td>35</td>
<td>Master of Science</td>
</tr>
<tr>
<td>Diagnostic Medical Sonography</td>
<td>72</td>
<td>Associate of Science</td>
</tr>
<tr>
<td>Radiologic Technology</td>
<td>73</td>
<td>Associate of Science</td>
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</tbody>
</table>
Satisfactory Academic Progress (SAP)

Overview

Students must make satisfactory progress both in terms of cumulative grade point average and the total amount of time taken to complete the required course sequence as outlined by semester. To maintain satisfactory progress, the student must:

- Complete their total program in no more than 1.5 times the number of semesters described in this catalog for the program.
- Establish and maintain at least a 3.0 GPA by the end of the student's second term of enrollment and all subsequent terms. (Grades for classes that were transferred from another institution are shown as “T” on the transcript and will not be used in computing the student’s grade point average.)

Factors that may influence satisfactory progress and that may result in extended time are:

- Deviation from the catalog requirements in the number of hours taken per semester
- Deviation in the course sequence recommended
- Withdrawal from classes
- Repeated courses
- Grades of “Incomplete”
- Changing the major or the program
- Probation or suspension
- Grade appeal process
- Earning more than one degree at a time

In calculating Satisfactory Academic Progress, Grades “A” through “C-” are considered passing grades. Grades “W” and “I” indicate that no grades were earned for the course. A “W” grade indicates that the student withdrew from the course. An “I” grade indicates that the student was passing the course, but failed to complete all the required course work. The instructor, in his/her discretion may grant an “I” grade instead of an “F”, pending completion of the course work by the student within a specified time arranged by the instructor and told to the student. It is the student’s responsibility to follow-up with the instructor to complete the course work. If the course work is not completed by the arranged time, the “I” grade becomes an “F”. For students receiving transfer credit from other institutions, a grade of “T” will appear on their transcript. Courses for which a “T” is given will not be used in computing the student’s grade point average.

A student's grade point average (“GPA”) is computed by dividing the sum of all grade points earned at the Institution by the total number of credits in all courses for which grades “A” through “F” were received. Courses in which a “W” or “I” or “T” or “P” grade was received will not be used in computing a student’s GPA.
DEFINITION OF SATISFACTORY ACADEMIC PROGRESS

Definition of Satisfactory Academic Progress:

Each student enrolled must demonstrate that he or she is making satisfactory academic progress toward the completion of his or her chosen program of study. The criteria that each student must meet to qualify as making "Satisfactory Academic Progress" are defined below. A student who is failing to meet this criterion at any point outlined below will not meet the standard of "Satisfactory Academic Progress". Any of three remedies may be applied if a student is not making Satisfactory Academic Progress. These are as follows: academic probation, restricted class load status and/or termination from the program of study.

The definition of Satisfactory Academic Progress has both qualitative and quantitative criteria that must be met. The student must meet both of these sets of criteria to make Satisfactory Academic Progress. Unmet satisfactory academic progress also affects scholarship eligibility.

QUALITATIVE CRITERIA FOR SATISFACTORY ACADEMIC PROGRESS

Under the qualitative criteria, to make Satisfactory Academic Progress, the student must comply with the following two criteria:

1. Demonstrate a minimum overall cumulative grade point average of 3.0 at the end of the student's second term of enrollment, and at the end of each subsequent term thereafter.

2. Demonstrate successful completion of the required percentage of the total cumulative credit hours he or she has attempted in the program of study.

To maintain Satisfactory Academic Progress, a student must establish and maintain at least a 3.0 overall cumulative grade point average by the end of the student's second term of enrollment and all subsequent terms of enrollment. Also, to maintain Satisfactory Academic Progress, the student must complete the required percentage of coursework attempted.

Any student who fails to establish or maintain Satisfactory Academic Process must meet with the Program Director/Dean.

A student who fails to establish or maintain Satisfactory Academic Progress will be placed on academic probation and maintain this status of academic probation during the following semester. At the end of the semester in which the student is on probation, the student’s overall GPA and Credit Completion Percentage will be recalculated. A student will be removed from academic probation only if the student completes the appropriate percentage of coursework and earns a "C-" or better in all courses attempted during the semester in which he or she is on academic probation and earns a cumulative GPA of 3.0 or higher.
Minimum Overall Cumulative GPA Undergrad/Graduate: | Required percentage of completion of coursework attempted:
---|---
Interval I: End of the second term: | 3.0 | 60%
Interval II: End of the student’s third and any subsequent term: | 3.0 | 66.67%
Interval III: The total maximum for completion as timeframe described under "Quantitative Criteria" below. | 3.0 | 66.67%

**CALCULATION OF THE CREDIT COMPLETION PERCENTAGE**

The credit completion ratio or percentage is calculated by dividing the total number credit hours successfully completed by the student in his or her program by the total number of credit hours attempted by the student. For the purposes of calculation, credit hours attempted by the student include:

A. all courses taken while the student is enrolled in his or her program of study or

B. a different program of study, if:

1) The subject matter of a course or courses in that different program of study is substantially the same as a course in his or her current program of study, or

2) If a course or courses count toward the satisfaction of any of the coursework requirement in the current program

**CONDITIONS THAT MAY RESULT IN PROBATION, RESTRICTED COURSE LOAD STATUS OR TERMINATION**

The following describes the conditions under which a student may be placed on probation, restricted course load or terminated completely from a program of study.

1. Termination automatically applies to any student not making Satisfactory Academic Progress at the end of the semester, unless the student appeals the determination of the lack of Satisfactory Academic Progress in writing to the Program Director/Dean. The Program Director/Dean may grant the student’s appeal if all the requirements specified below under Academic Probation and
Restricted Course Load sections are met. If the appeal is granted, the student will be placed on probation or restricted course load status during the student's next semester of attendance. Such action is not automatic, but at the discretion of the Institution.

2. Termination automatically applies to any student not making Satisfactory Academic Progress at the end of the following, unless the student appeals the determination of the lack of Satisfactory Academic Progress in writing to the Program Director/Dean. The Program Director/Dean may grant the student's appeal if all the requirements specified below under Restricted Course Load sections are met. If the appeal is granted, the student will be placed on Restricted Course Load status during the student's next semester of attendance.

3. At the end of following semester, if the student is not making Satisfactory Academic Progress, he or she will be terminated from his or her program of study.

**CALCULATION OF OVERALL CUMULATIVE GRADE POINT AVERAGE**

The calculation of a student's overall GPA in his or her program of study will include the following:

- The grade or grades earned by the student during each course in which he or she was enrolled in the program of study at the university.

- The grade or grades earned by the student during which he or she was enrolled in a different program of study at the university.

If the course or the content matter of any course taken in another program of study is substantially the same as a course in the student's current program of study, that course satisfies the coursework requirement of his or her current program of study.

**QUANTITATIVE CRITERIA FOR SATISFACTORY ACADEMIC PROGRESS**

All student must maintain a satisfactory overall GPA and successfully complete a minimum percentage of coursework (66.7% of hours attempted) each academic year. Additionally, a student must complete the degree within a maximum timeframe of attempted credit hours.

<table>
<thead>
<tr>
<th>Under Graduate Program</th>
<th>Credits</th>
<th>Maximum Number of Credits Attempted</th>
<th>Credential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic Medical Sonography</td>
<td>72</td>
<td>108</td>
<td>Associate of Science</td>
</tr>
<tr>
<td>Radiologic Technology</td>
<td>73</td>
<td>109.5</td>
<td>Associate of Science</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Graduate Program</th>
<th>Credits</th>
<th>Maximum Number of Credits Attempted</th>
<th>Credential</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Maximum Time Frame for the Completion of any program of study is 150% of the credit hours designated for the program. A student is not making Satisfactory Academic Progress if the university determines that the student is unable to graduate from his or her program without exceeding the Maximum Time Frame for Completion. In such case, the student will be terminated from his or her program of study.

The calculation of the Maximum Time Frame for Completion includes all courses taken while the student is enrolled in his or her program of study or a different program of study, if the subject matter of a course or courses in that different program of study is substantially the same as a course in his or her current program of study, or if a course or courses count toward the satisfaction of any of the coursework requirement in the current program. Authorized leave of absence periods will not be counted toward maximum time frame calculation.

**MAXIMUM TIME FRAME FOR SATISFACTORY ACADEMIC PROGRESS**

**SATISFACTORY ACADEMIC PROGRESS POLICY**

All students are required to meet the standards of academic performance that are outlined in the sections below and they are evaluated regularly to determine that the standards are met. These standards have multiple components: a minimum cumulative grade point average requirement (CGPA); a minimum successful completion rate based on all clock hours attempted; and, a maximum time frame requirement to successfully complete all required clock hours for the program. As described below, each student must achieve the minimum CGPA within the maximum time frame established, achieving the required completion rate of 75% at each evaluation point. Failure to meet these standards may result in dismissal from the academic program and in ineligibility to earn a degree.

**MAXIMUM TIME FRAME (MTF) Doctor of Philosophy, Clinical and Translational Research**

Students who adhere to their assigned class schedules and achieve the minimum passing scores or standards in their theory classes and core classes will complete the Clinical and Translational Research Doctorate program in 102 credit hours. For any student who, for any reason, has not remained on track with his or her studies, the maximum time frame (MTF) to successfully complete the program is 153 hours.

The MTF, which is 1.5 times the normal completion time of 102 credit hours, is computed from the very first semester in which the student enrolled and originally began his or her studies. Any student who does not successfully complete the Clinical and Translational Research Doctorate program within the 153 MTF cannot earn a Clinical and Translational Research Doctorate.
The MTF for transfer students will be adjusted individually according to the total number of hours they successfully transferred into the program. The total number of hours the transfer student needs to complete the Clinical and Translational Research Doctorate program will be multiplied by 1.5 to determine that student’s MTF.

MAXIMUM TIME FRAME (MTF) Doctor of Pharmacy
Students who adhere to their assigned class schedules and achieve the minimum passing scores or standards in their theory classes and core classes will complete the Pharmacy Doctorate program in 141 credit hours. For any student who, for any reason, has not remained on track with his or her studies, the maximum time frame (MTF) to successfully complete the program is 211.5 credit hours.

The MTF, which is 1.5 times the normal completion time of 141 credit hours, is computed from the very first semester in which the student enrolled and originally began his or her studies. Any student who does not successfully complete the Pharmacy Doctorate program within the 211.5 MTF cannot earn a Pharmacy Doctorate.

The MTF for transfer students will be adjusted individually according to the total number of hours they successfully transferred into the program. The total number of hours the transfer student needs to complete the Pharmacy Doctorate program will be multiplied by 1.5 to determine that student’s MTF.

MAXIMUM TIME FRAME (MTF) Master of Science, Biomedical Science
Students who adhere to their assigned class schedules and achieve the minimum passing scores or standards in their theory classes and core classes will complete the Biomedical Sciences Master program in 33 credit hours. For any student who, for any reason, has not remained on track with his or her studies, the maximum time frame (MTF) to successfully complete the program is 49.5 credit hours.

The MTF, which is 1.5 times the normal completion time of 33 credit hours, is computed from the very first semester in which the student enrolled and originally began his or her studies. Any student who does not successfully complete the Biomedical Sciences Master program within the 49.5 MTF cannot earn a Biomedical Sciences Master.

The MTF for transfer students will be adjusted individually according to the total number of hours they successfully transferred into the program. The total number of hours the transfer student needs to complete the Biomedical Sciences Master program will be multiplied by 1.5 to determine that student’s MTF.

MAXIMUM TIME FRAME (MTF) Master of Science, Clinical Anatomy
Students who adhere to their assigned class schedules and achieve the minimum passing scores or standards in their theory classes and core classes will complete the Clinical Anatomy Master program in 36 credit hours. For any student who, for any reason, has not remained on track with his or her studies, the maximum time frame (MTF) to successfully complete the program is 54 credit hours.

The MTF, which is 1.5 times the normal completion time of 36 credit hours, is computed from the very first semester in which the student enrolled and originally began his or her studies. Any student who does not successfully complete the Clinical Anatomy Master program within the 54 MTF cannot earn a Clinical Anatomy Master.
The MTF for transfer students will be adjusted individually according to the total number of hours they successfully transferred into the program. The total number of hours the transfer student needs to complete the Clinical Anatomy Master program will be multiplied by 1.5 to determine that student’s MTF.

**MAXIMUM TIME FRAME (MTF)** Master of Science, Clinical Cellular and Molecular Biology
Students who adhere to their assigned class schedules and achieve the minimum passing scores or standards in their theory classes and core classes will complete the Clinical Cellular and Molecular Biology Master program in 35 credit hours. For any student who, for any reason, has not remained on track with his or her studies, the maximum time frame (MTF) to successfully complete the program is 52.5 credit hours.

The MTF, which is 1.5 times the normal completion time of 35 credit hours, is computed from the very first semester in which the student enrolled and originally began his or her studies. Any student who does not successfully complete the Clinical Cellular and Molecular Biology Master program within the 52.5 MTF cannot earn a Clinical Cellular and Molecular Biology Master.

The MTF for transfer students will be adjusted individually according to the total number of hours they successfully transferred into the program. The total number of hours the transfer student needs to complete the Clinical Cellular and Molecular Biology Master program will be multiplied by 1.5 to determine that student’s MTF.

**MAXIMUM TIME FRAME (MTF)** Associate of Science, Diagnostic Medical Sonography
Students who adhere to their assigned class schedules and achieve the minimum passing scores or standards in their theory classes and core classes will complete the Diagnostic Medical Sonography Associate program in 72 credit hours. For any student who, for any reason, has not remained on track with his or her studies, the maximum time frame (MTF) to successfully complete the program is 108 credit hours.

The MTF, which is 1.5 times the normal completion time of 72 credit hours, is computed from the very first semester in which the student enrolled and originally began his or her studies. Any student who does not successfully complete the Diagnostic Medical Sonography Associate program within the 108 MTF cannot earn a Diagnostic Medical Sonography Associate.

The MTF for transfer students will be adjusted individually according to the total number of hours they successfully transferred into the program. The total number of hours the transfer student needs to complete the Diagnostic Medical Sonography Associate program will be multiplied by 1.5 to determine that student’s MTF.

**MAXIMUM TIME FRAME (MTF)** Associate of Science, Radiologic Technology
Students who adhere to their assigned class schedules and achieve the minimum passing scores or standards in their theory classes and core classes will complete the Radiologic Technology Associate program in 73 credit hours. For any student who, for any reason, has not remained on track with his or her studies, the maximum time frame (MTF) to successfully complete the program is 109.5 credit hours.

The MTF, which is 1.5 times the normal completion time of 73 credit hours, is computed from the very first semester in which the student enrolled and originally began his or her studies. Any student who does not successfully complete the Radiologic Technology Associate program within the 109.5 MTF cannot earn a Radiologic Technology Associate.
The MTF for transfer students will be adjusted individually according to the total number of hours they successfully transferred into the program. The total number of hours the transfer student needs to complete the Radiologic Technology Associate program will be multiplied by 1.5 to determine that student’s MTF.

**ACADEMIC PROBATION**

All students enrolled must demonstrate that he or she is making satisfactory academic progress toward the completion of his or her chosen program of study. The criteria that each student must meet to qualify as making "Satisfactory Academic Progress" are defined below. A student who is failing to meet this criterion at any point outlined below will not meet the standard of "Satisfactory Academic Progress". Any of three remedies may be applied if a student is not making Satisfactory Academic Progress. These are as follows: academic probation, restricted class load status and/or termination from the program of study. The definition of Satisfactory Academic Progress has both qualitative and quantitative criteria that must be met. The student must meet both of these sets of criteria to make Satisfactory Academic Progress.

**RESTRICTED COURSE LOAD**

An undergraduate student who, during the semester of probation, still does not earn a C- in every course or a 3.0 cumulative GPA is required to meet with his or her coordinator to determine whether a reduced course load may be appropriate for the student. If the coordinator determines that a reduced course load may be favorable for the student, then the student may register the next semester for only half of the number of credit hours normally taken by a full-time student. If, during the semester in which the student is on Restricted Course Load, the student still does not earn at least a "C-" or better in all courses and earn a cumulative grade point average of 3.0, then the following semester, the student must register only for those courses in which he or she did not receive a "C-" or better. If, during that semester, the student still does not earn a "C-" or better for those courses, he or she will be terminated from the program of study and suspended from the Institution for unsatisfactory academic performance. A suspended student is eligible to apply for readmission after a minimum of one semester, and, if permitted to return, will be on academic probation and/ or restricted course load status.

A graduate student who, during the semester of probation, still does not earn a B- in every course or a 3.0 cumulative GPA is required to meet with his or her coordinator to determine whether a reduced course load may be appropriate for the student. If the coordinator determines that a reduced course load may be favorable for the student, then the student may register the next semester for only half of the number of credit hours normally taken by a full-time student. If, during the semester in which the student is on Restricted Course Load, the student still does not earn at least a "B-" or better in all courses and earn a cumulative grade point average of 3.0, then the following semester, the student must register only for those courses in which he or she did not receive a "B-" or better. If, during that semester, the student still does not earn a "B-" or better for those courses, he or she will be terminated from the program of study and suspended from the Institution for unsatisfactory academic performance. A suspended student is eligible to apply for readmission after a minimum of one semester, and, if permitted to return, will be on academic probation and/ or restricted course load status.
INCOMPLETE GRADE IN A COURSE

If a student receives a grade of A, B, C or D in any course, the student will have successfully completed that course. If the student receives a grade of "I", he or she must successfully complete the required work for that course within a specified time arranged by the instructor and communicated to the student, but no later than the end of the semester following the semester in which the "I" was received. It is the student's responsibility to follow up with the instructor to complete the course work. If the course work is not completed by the arranged time, the "I" becomes an "F".

WARNING

Warning is a warning status for students who failed to meet standards of satisfactory academic progress. Students are placed on Warning as the result of the following scenarios:

- Cumulative GPA is less than 3.0 by the end of the undergraduate student's second term of enrollment and all subsequent terms or
- Cumulative GPA is less than 3.0 by the end of the graduate student's second term of enrollment and all subsequent terms
- Completion of less than 60% of credits attempted

RESOLVING WARNING STATUS

To resolve warning status and get back into "Good Standing", students can do one of the following (depending on what caused the student to go on warning):

Complete the next term successfully, which is defined as completing 60% of all credit for the term with a GPA above the required minimum.

If the warning was caused by an "Incomplete" grade, have the "I" grade changed to a passing grade before the end of the warning term.

TRANSFER COURSES

Students will receive a grade of “TR” for courses taken at another institution that are being transferred in for required courses at the institution. The grade of “TR” has no effect on the student’s cumulative GPA or successful completion of courses. However, a grade of “TR” is added to hours attempted within the specified minimum time frame.

REPEAT COURSES

A student may repeat a course to improve the overall cumulative grade point average. If a student has an "F" and repeats the course and receives a better grade, for example, an "A", then only the "A" is counted in the calculation of the cumulative grade point average. Credits attempted and earned for the second attempt are counted in lieu of those earned for the initial attempt.
Though both attempts remain part of the student’s permanent record, the cumulative grade point average will reflect only the grade earned on the second attempt.

A student who earns grade of “F” in any course included in his or her program of study must repeat that course and complete it successfully before taking any course with respect to which the failed course is a prerequisite and before graduation.

A student who has successfully completed a course, but wishes to improve the grade received in the course, may also repeat the course. If the course is repeated, the grade earned for the last time the course is taken replaces the previous grade when the overall GPA is calculated. All grades for all courses attempted will remain on the student's transcript, however.

CHANGE OF PROGRAM OR MAJOR

Students who contemplate a change from one program or major to another should discuss this possibility with the Program Director/Dean to determine the effect such a change would make on the student’s satisfactory academic progress. This institution defines satisfactory academic progress as completion of the total program in no more than 1.5 times the number of semesters described in this catalog for the program. All credits attempted count toward the total program length of 1.5 times the number of semesters required for completion of the major program. If a student changes his/her major or program only the credits that are common to both programs may be accepted toward the new degree program.

ADDITIONAL DEGREE PROGRAM

Students who wish to earn another degree must re-apply for admission. Upon acceptance, courses which count toward the new degree program completion requirements will be transferred. A student may only transfer courses with a final grade of “C” or higher. Credit attempted and grades earned in the student’s new program of study will count towards determining satisfactory academic progress.

WITHDRAWAL FROM A COURSE

Students may withdraw from a course during the drop/add period (the first week of class) without punitive grades or financial obligations. If the student withdraws a course during the drop/add period (the first week of class), they will receive a “W” grade in the course. The last day of physical attendance determines whether or not grades are recorded for the semester. If the last day of attendance is within the first half of the semester, a grade of “W” is given. If the last day of attendance is within the second half of the semester, the student will receive a final letter grade. The grade of “W” has no effect on the student’s cumulative GPA. However, the grade of “W” is added to hours attempted within the specified maximum time frame.

READMISSION AFTER SUSPENSION FOR UNSATISFACTORY ACADEMIC PROGRESS

If the student was not making satisfactory academic progress in his or her program of study as of the last semester enrolled, the student will not be readmitted into the same or a different program, unless the
student makes an appeal in writing concerning the institution’s determination to the Program Director/Dean (as provided below in the Appeal section) and the Program Director/Dean grants the student’s appeal. The Program Director/Dean will consider mitigating circumstances in addressing the appeal. If the Program Director/Dean grants the appeal, then the student will be placed on either academic probation or restricted course load status (at the Program Director/Dean discretion, as appropriate) during the student’s next semester of attendance in any program of study.

If the student is given permission for readmission, the student must agree in writing to the terms for readmission outlined by the institution and must execute a new Enrollment Agreement. The student must also pay all current tuition, fees and any other costs associated with the student’s program of study.

**APPEALING A DETERMINATION OF UNSATISFACTORY PROGRESS**

If it is determined that a student is failing to make satisfactory academic progress in his or her program of study, the student may appeal the determination in writing to the Program Director/Dean. The student’s appeal must provide details concerning the circumstances affecting the student’s academic progress (such as serious illness or injury befalling the student, the death of a close relative of the student or any other special circumstances) that may influence the institution’s decision to terminate or not to readmit the student into his or her program of study.

The Program Director/Dean will consider the appeal to determine whether the special circumstances explained in the student’s written appeal are mitigating circumstances that will allow the student to remain enrolled in or readmitted to his or her program of study despite the student’s failure to conform to the requirements of Satisfactory Academic Progress. The determination of the student’s appeal will be made by the discretion of the Program Director/Dean in conformity to the principles and standards described in this catalog and will be final and binding on the student. If the Program Director/Dean decides in favor of the student’s appeal, the student will be placed either on academic probation or restricted course load status during the student’s next semester of attendance in a program of study.
DEPARTMENT OF BIOMEDICAL SCIENCES

MISSION STATEMENT
To develop an academic community engaged in teaching, research, scholarship and service that provides an opportunity for individuals aspiring to health science careers to prepare for professional studies in medicine, dentistry, pharmacy and research.

ADMINISTRATION
Mercedes Perez de Salazar, DNP, MSN, MBA, PMC-NE, RN, NE-BC
Program Director, Department of Biomedical Sciences

Richard Mroz, DA, MS, BSMT
Assistant Program Director, Department of Biomedical Sciences

DEGREE PROGRAMS
Doctor of Philosophy, Clinical and Translational Research (102 Credit Hours)
Master of Science, Biomedical Science (33 Credit Hours)
Master of Science, Clinical Cellular and Molecular Biology (35 Credit Hours)
Master of Science, Clinical Anatomy (36 Credit Hours)

TUITION AND FEES
All costs are subject to change and students will be notified of any changes.

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Credit MS Biomedical Sciences</td>
<td>$733.00</td>
</tr>
<tr>
<td>Per Credit AS Diagnostic Medical Sonography</td>
<td>$666.00</td>
</tr>
<tr>
<td>Per Credit AS Radiologic Technology</td>
<td>$630.00</td>
</tr>
<tr>
<td>Research Fee (One-Time, Applies to MS Biomedical Sciences only)</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>Tuition Late Payment</td>
<td>$150.00</td>
</tr>
<tr>
<td>Returned Check</td>
<td>$100.00</td>
</tr>
<tr>
<td>Lost I.D. Card</td>
<td>$15.00</td>
</tr>
<tr>
<td>Transcript, each Official</td>
<td>$10.00</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>Variable</td>
</tr>
<tr>
<td>Graduation Application Fee*</td>
<td>$150.00</td>
</tr>
<tr>
<td>Late Registration</td>
<td>$100.00</td>
</tr>
<tr>
<td>Application Fee (Nonrefundable)</td>
<td>$50.00</td>
</tr>
<tr>
<td>Enrollment Fee (Nonrefundable)</td>
<td>$150.00</td>
</tr>
<tr>
<td>Deposit (Counts towards tuition; 50% refundable)</td>
<td>$500.00</td>
</tr>
</tbody>
</table>

*Fee applies each time a student registers for Graduation
Non-refundable fees cannot exceed $150.

REFUND POLICY

REFUND FOR DROPPING INDIVIDUAL CLASSES
Larkin University refunds in full tuition for classes dropped by the last day of the Drop/Add period. There is no refund of tuition for individual courses dropped after the last day of the Drop/Add period. The Drop/Add period is the first week (5 business days) of the term.
REFUND FOR WITHDRAWING FROM REGISTRATION

Withdrawal is defined as the dropping of one’s entire program in a given term as differentiated from dropping some, but not all, of one’s courses. Students who withdraw from a term are charged a $75 withdrawal fee and tuition and fees are charged according to a schedule set by the Office of the Registrar. Refunds will be made within 30 days. Application fees, late fees, and research fees are not refundable.

REFUND SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Through the end of the drop/add period: 100% tuition and fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 2</td>
<td>75% tuition refunded, no fees refunded</td>
</tr>
<tr>
<td>Week 3</td>
<td>50% tuition refunded, no fees refunded</td>
</tr>
<tr>
<td>Week 4</td>
<td>25% tuition refunded, no fees refunded</td>
</tr>
<tr>
<td>Week 5</td>
<td>0% tuition refunded, no fees refunded</td>
</tr>
</tbody>
</table>

Designated Office to Contact for Withdrawal - The student must contact the Dean of the college, Program/Assistant Program Director or Registrar to withdraw. The student should also meet with the Director of Financial Services to determine any financial liability created by withdrawal prior to the end of the term.

TRANSFERABILITY OF CREDITS

Transferability of credits from another institution to Larkin University is at the discretion of the Dean of the specific department. The number of credits acceptable for transfer from another institution toward a Larkin University degree is at the discretion of the Dean of the respective department. The Biomedical Sciences program does not allow transfer of credits.

Such credits must meet the following criteria:

- Only courses for which a grade of A or B was earned will be considered.
- Previously earned credits, if accepted for transfer, will be counted as having been taken in one year of the time limitation to complete the degree.
- Only credits will be transferred, not grades or grade point averages.
- Maximum allowable number of credits transferrable is dependent on the program.
- Domestic credits must originate from institutions accredited by any of the following six regional associations:
  - New England Association of Schools and Colleges, Commission on Institutions of Higher Education
  - Middle States Association of Colleges and Schools, Commission on Higher Education
  - North Central Association of Colleges and Schools, Commission on Institutions of Higher Education
  - Northwest Association of Schools and Colleges, Commission on Colleges
  - Southern Association of Colleges and Schools, Commission on Colleges
  - Western Association of Schools and Colleges, Accrediting Commission for Senior Colleges and Universities

The Dean of the specified college will approve and facilitate the transfer of credits. The Dean of the specified College has the right to deny any transfer of credits. The Biomedical Sciences program does not allow transfer of credits.
Grading System

The grading system for academic performance in the College of Biomedical Sciences appears below. Unless otherwise indicated, each grade earned is calculated into the student’s cumulative grade point average (CGPA) and the credits assigned for the course taken are included in the calculation.

### Assessment Criteria and Methods of Evaluating Students

<table>
<thead>
<tr>
<th>Grade scale based on 4.0 Scale</th>
<th>Percentage Score</th>
<th>Letter</th>
<th>Quality Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>93-100%</td>
<td>A</td>
<td>4.0</td>
<td></td>
</tr>
<tr>
<td>91-92%</td>
<td>A-</td>
<td>3.7</td>
<td></td>
</tr>
<tr>
<td>89-90%</td>
<td>B+</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>85-88%</td>
<td>B</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>83-84%</td>
<td>B-</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>81-83%</td>
<td>C+</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>77-80%</td>
<td>C</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td>75-76%</td>
<td>F</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>69-72%</td>
<td>F</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>67-68%</td>
<td>F</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>0-66%</td>
<td>F</td>
<td>0.00</td>
<td></td>
</tr>
</tbody>
</table>

- **Satisfactory**: Not Computed
- **Unsatisfactory**: Not Computed
- **Withdrawal/Prior to 50% completion**: Not Computed
- **Withdrawal/After to 50% completion**: 0.0
- **Withdrawal/Non Attendance**: Not Computed

### Repeated Courses

The new grade for a failed course that has been repeated will not replace the prior grade. Both the grade earned and the credits taken for the repeated course will be included in the CGPA for satisfactory academic progression (SAP) calculations.

### Incomplete (Grade of I)

At the discretion of the instructor, a student may be assigned a temporary grade of incomplete (I) to allow the student more time to complete missing coursework to take a required exam. Upon completion of the work or exam, the earned grade replaces the grade of “I” and is calculated into the grade average for the level and for the CGPA. If the missing work or exam is not completed within two weeks from the last day of the course, a grade of “F” will be assigned and competed into the final grade average for the course and into the CGPA.

### TR Grade

A grade of TR is assigned for a student’s successful transfer of credits earned from an accredited institution. Neither the grade nor the credits are included in the CGPA or credits attempted calculations.
total number of credits transferred is deducted from the total number of credits needed for program completion. The maximum time frame (MTF) for a transfer student will be 1.5 times the total hours needed for program completion.

**W Grade**
A student who formally withdraws from the institution before the mid-point (50% or half-way point) of a course will be assigned a grade of W for the course. The W grade is not included in the calculation of the CGPA and the credits for the course are not included in the determination of total credits attempted.

**WP Grade**
A student who formally withdraws from the institution after the mid-point of a course and who had earned an overall score of 3.0 or higher by the time of the withdrawal will be assigned a grade of WP for the course. The WP grade is not included in the calculation of the CGPA and the credits for the course are not included in the determination of total credits attempted.

**WF Grade**
A student who formally withdraws from the institution or who stops attending after the mid-point of a course and who has earned less than an overall score of 3.0 or higher by the time of the withdrawal will be assigned a grade of WF for the course. The WF grade is included in the calculation of the CGPA and the credits for the course are included in the determination of total credits attempted.

**Unit of Credit**
Credit hours are awarded on a semester basis according to the successful completion of coursework for which the student has registered. The successful completion of one unit of credit is equivalent to the following total clock hours per semester:

- 1 lecture credit = 15 hours
- 1 laboratory credit = 30 hours
- 1 internship/externship or practicum credit = 45 hours

**Grade Reports**
Students may view final grades online through their account at the end of each term. Any error in grading, the omission of a course, etc. should be reported to the Registrar within two weeks following the end of the term. For employment, corporate reimbursement or other needs, a comprehensive registration statement may be requested from the Cashier. This statement includes billing information and final grades once they have been posted.

**Appeals of Grades**
A student wishing to challenge a grade will proceed in the following manner:

a. Discuss concerns related to the grade with the faculty member of record in the presence of the Director of Student Services or Academic Advisor.

b. In the event that the grievance is not settled with the faculty member, the student must write a letter to the Dean of the program stating the grievance no later than thirty days after the date on which the grade was due in the Office of the Registrar’s.
c. The Dean will make an informal investigation, hearing both the student and the faculty member, and attempt an informal reconciliation. The Dean will render a decision within thirty calendar days and inform the student and faculty member in writing.

d. The Dean will make the final decision on the appeal of a grade.

GOOD STANDING-PROBATION-SUSPENSION

A student is in Good Academic Standing if his/her cumulative grade point average (GPA) is 3.00 or above. A student who has been suspended for academic reasons generally may not petition the Office of Admissions for readmission until one year has elapsed. The Office of Admissions must have the approval of the Dean. Reference should be made to the Readmission section of this catalog for each specific program.

Students must make satisfactory progress both in terms of cumulative grade point average and the total amount of time taken to complete the required course sequence as outlined by semester in Catalog.

PROBATION, SUSPENSION, AND DISMISSAL

Students are evaluated after the completion of every course and at the end of each academic semester. If a student fails a course before the semester ends, the student is immediately placed on academic probation. The student will remain on academic probation until:

1. The student retakes the failed course when it is next offered and passes it on the next attempt; or,
2. The student retakes the failed course and fails it again; or,
3. The student takes another course (before retaking the first course) and fails it.

If the student takes the course a second time and passes it, the student is removed from academic probation.

If the student fails the course for a second time, the student is academically dismissed from the program.

If the student takes another course (before retaking the first course) and fails it, the student is academically dismissed.

At the end of a semester, any student whose cumulative grade point average (CGPA) is below 3.0 or whose successful completion rate is less than 75% of all credits attempted, will be placed on academic probation.

Any student who has been academically dismissed will not be considered for readmission until 6 months have passed. The student will have to reapply for admission, satisfy all admissions criteria in effect at the time, satisfy any outstanding financial obligations to the institution, and retake any failed classes before proceeding to other courses.

The student will have one semester to raise his or her CGPA to 3.0 or higher and/or their completion rate to 75% or better.

Any student who fails to earn the minimum CGPA or the required completion rate by the end of the probationary semester will be academically dismissed from the university.
WITHDRAWALS

COURSE WITHDRAWAL
Students requesting to withdraw from an individual course must meet with his/her advisor to obtain permission. If permission is granted, the student must submit, in writing, the course and the date of withdrawal. The advisor must provide approval in a written letter format with the approval of the Dean of the program. Both documents must be submitted to the Registrar within (7) working days from the date signed by the academic advisor.

If student is withdrawing from all coursework within a term, the student must submit a letter with a notarized signature the intent to withdraw and whether the student is returning the next term or is permanently leaving the school.

It is the responsibility of the student to initiate a withdrawal during the designated withdrawal period. Otherwise, an F grade will be issued at the end of the term.

SCHOOL WITHDRAWAL
Students withdrawing from Larkin University must do so officially by submitting a written notice of withdrawal to the Dean of the specific program and the Registrar. The letter must be signed by the academic advisor and the Dean, and then sent to the Bursar and lastly to the Registrar for final processing.

POLICY ON LEAVE
The purpose of this policy is to ensure that all Larkin University students with incipient emotional, mental health or physical needs receive timely assessment and access to service. When a student experiences serious medical or psychological problem while enrolled as a student in Larkin University, he or she may request to take a voluntary medical leave-of-absence. If approved by the Dean, the student will leave campus, be granted grades of "W" in all enrolled courses, and the student will be obligated to adhere to the readmission requirements outlined below if he or she desires to return to Larkin University after the problem has been treated and resolved.

Similarly, Larkin University may require a student to take a medical leave-of-absence if, in the judgment of the Dean his/her designee, the student (a) poses a threat to the lives or safety of him/herself or other members of the Larkin University community, or (b) has a medical or psychological problem which cannot be properly treated in the school setting, or (c) has evidenced a medical condition or behavior that seriously interferes with the student's ability to function and/or seriously interferes with the educational pursuits of other members of the Larkin University Community. While on medical leave a student may not return to the campus without prior permission from the Dean.

In making the decision to require a student to take a medical leave, the Dean act out of concern for the student and his or her rights, concern for other students and concern for the Institute as a whole. The Dean will have to consider whether the Institute is able to provide the level of care and guidance needed, whether there is a likelihood that the student will pose a threat to himself/herself or others and/or to
what extent the student seriously interferes with the rights of the others in the community to carry on their educational pursuits.

For both voluntary and required leaves, the policy on refunds contained in the catalog will apply.

READMISSION REQUIREMENTS FOR MEDICAL LEAVES
If a student has been placed on medical leave, he or she must take sufficient time away (normally six months to a year) to adequately address the issue that necessitated the leave. During this absence, the school expects the student to undergo professional health care treatment as the primary method of resolving the problems. Failure to seek ongoing treatment of a kind appropriate to the health problems will raise serious doubt as to the student’s readiness to resume student status, and in such cases the school may withhold readmission until such time that appropriate treatment has been received.

A student on medical leave, who wishes to return, must initiate a request for readmission at least one month prior to anticipate return by writing a letter to the Dean of the specific program, detailing what has been accomplished during the absence. The student’s letter and a supporting letter from an appropriate health care professional are the basis upon which the Dean, or his/her designee, makes the judgment that the health circumstances causing the student to leave have been adequately addressed and that there is a reasonable assurance that the student will be able to resume his/her studies.

The letter from the health care professional must address at least the following questions: What were the reasons for the student seeing you, how often did you meet, what gains were made, do you feel the student is able to handle the intellectual, physical and personal demands of being a full-time resident/commuter student, do you feel the student is ready to return to full-time studies at Larkin University, and are there any special conditions under which the student should be readmitted. This letter should be directed to the Dean of the program, or his/her designee.

The appropriate health care professionals at Larkin University and by the Dean or his/her designee review the information gathered. The decision to readmit a student from a medical leave-of-absence is a professional judgment that may be reversed if a student fails to be a responsible member of the Larkin University community. When a student is permitted to return, special conditions or requirements may be outlined at the time, and upon return, the student is expected to meet periodically with the Dean or his/her designee.

VOLUNTARY LEAVE OF ABSENCE
If a student wants to take a leave of absence for more than one month, the student must submit in writing the effective date of the leave of absence. A letter from the academic advisor and/or Dean must accompany the letter with details related to re-admission, if applicable. Each specific department and Program has specific allowances for the time allowed for a leave of absence and the process for readmission.

REQUIREMENTS FOR DEGREE CONFERRAL
Students expecting to graduate at the end of any semester term:
1. Must meet specified academic requirements (i.e., GPA) for graduation for the specific program;
2. Complete all degree requirements specified for the appropriate degree program;
3. Submit a Graduation Application form with the Office of the Registrar no later than the date specified in the Academic Calendar for the semester in which they expect to graduate. A $150 graduation application fee applies each time a student registers for graduation.

Graduating students with any outstanding financial obligations will not receive a cap and gown and will not be permitted to participate in the graduation ceremony.

ADVISEMENT
All students will be assigned an advisor that students will be required to meet at the beginning and end of each semester. The advisor will also meet with the student when a student’s performance is found to be below 70% on any assessment measure in a specific course.

CENTER FOR COUNSELING AND PSYCHOLOGICAL SERVICES
The purpose of the Center for Counseling and Psychological Services is to provide the following services in an atmosphere of respect and confidentiality:

1. Personal counseling, including individual and group counseling
2. Wellness-related programs, including activities, presentations and workshops to students.
3. Interaction with other universities statewide including promotion of responsible and healthy lifestyle choices with regard to substance abuse, and addressing other areas of interest and concern.

Personal counseling is available on an appointment basis, if possible. Twenty-four hour emergency counseling services are available through a beeper system. Confidential personal counseling is available to all students at Larkin Health Services Institute. Students are encouraged to use the counseling services when those services would be helpful. When requested, or when appropriate, referrals are made to Larkin Health Services Institute's consulting psychiatrist, to physicians and/or community agencies. An initial fee of $65 and a follow up fee of $25 will be charged to the student's insurance or their student account (reimbursable through private insurance). All referrals are made through the Counseling Center. Confidentiality is maintained.

ACADEMIC DISHONESTY POLICY
CHEATING AND PLAGIARISM DEFINITIONS
Cheating is defined as the attempt, successful or not, to give or obtain aid and/or information by illicit means in meeting any academic requirements, including examinations. Cheating includes falsifying reports and documents.

Plagiarism is defined as the use, without proper acknowledgement, of the ideas, phrases, sentences, or larger units of discourse from another writer or speaker. Plagiarism includes the unauthorized copying of software and the violation of copyright laws.

AN INCIDENT OF CHEATING OR PLAGIARISM
An incident upon which a faculty member may take action will be an event which the faculty member witnesses or has written evidence to support. A faculty member or a designated representative must observe this evidence directly and may not take action solely on the report of another party.
PROCEDURES FOR HANDLING CHEATING AND PLAGIARISM
Any faculty member discovering a case of suspected cheating or plagiarism should make a responsible effort to confront the student with the evidence within five working days. If the student can explain the incident to the satisfaction of the faculty member, no further action is warranted.

If the student denies cheating and the faculty member continues to believe cheating has occurred, the faculty member will send an Academic Dishonesty Form to the Dean.
   a. The Dean will hold a hearing in which the faculty member will present the evidence against the student. The Dean will decide who, in addition to the above, may be present at the hearing.
   b. The Dean will determine whether or not the evidence indicates that cheating/plagiarism has taken place.

If the student has admitted or has been found guilty of cheating or plagiarism, the following records will be kept:
   a. The faculty member will send an Academic Dishonesty Form to the student's Dean and Advisor.
   b. The Dean will inform the student in writing that these forms have been sent.

RESPONSIBILITY OF STUDENTS
All students are strongly encouraged to provide a statement of good health and proof of Hepatitis B, Hepatitis A, Varicella, annual Influenza, HPV vaccinations and PPD screenings prior to attending Larkin University.

This documentation must be received prior to class registration:

Acceptable records of immunizations may be obtained from the following sources and must be presented to the Student Health Center prior to registration:
   • High school records,
   • Personal shot records (signed or stamped by a healthcare provider),
   • Health Department or physician records,
   • Military documents or
   • World Health Organization documents,
   • Previous college or university immunization records (these records do not automatically transfer, you must request a copy)

Proof of insurance and a completed insurance waiver must be received by the OSAA upon entering the school and, on an annual basis thereafter prior to the first 14 days of the semester or, the fee for the Larkin University sponsored student insurance plan may be assessed to the student's account. If a student insurance fee has been assessed to a student's account due to lack of compliance with the school policy, such fees are irrevocable and will not be credited under any circumstance. Failure to comply with academic program requirements may negatively affect the student's participation in such programs.
**STUDENT ORGANIZATIONS**

Student organizations will be developed by the students under advisement of program faculty and the Dean of the department.

**ACADEMIC CALENDAR FOR COLLEGE OF BIOMEDICAL SCIENCES, 2017-2018**

<table>
<thead>
<tr>
<th>SPRING 2017</th>
<th>SUMMER 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration Opens</td>
<td>Registration Opens</td>
</tr>
<tr>
<td>Monday, December 5</td>
<td>Monday, April 3</td>
</tr>
<tr>
<td>New Faculty Orientation</td>
<td>New Faculty Orientation</td>
</tr>
<tr>
<td>Friday, January 6</td>
<td>Friday, April 28</td>
</tr>
<tr>
<td>Student Orientation</td>
<td>Student Orientation</td>
</tr>
<tr>
<td>Friday, January 6</td>
<td>Friday, April 28</td>
</tr>
<tr>
<td>Classes Begin</td>
<td>Classes Begin</td>
</tr>
<tr>
<td>Monday, January 9</td>
<td>Monday, May 1</td>
</tr>
<tr>
<td>Drop/Add Period</td>
<td>Drop/Add Period</td>
</tr>
<tr>
<td>Mon-Fri, January 9-13</td>
<td>Mon-Fri, May 1-5</td>
</tr>
<tr>
<td>MLK Holiday</td>
<td>MLK Holiday</td>
</tr>
<tr>
<td>Monday January 16 *</td>
<td>Monday, May 29*</td>
</tr>
<tr>
<td>Spring Break</td>
<td>July 4th Holiday,</td>
</tr>
<tr>
<td>Mon-Fri, March 13 to 17</td>
<td>Mon-Tue, July 3-4*</td>
</tr>
<tr>
<td>Classes End</td>
<td>Classes End</td>
</tr>
<tr>
<td>Friday, April 14</td>
<td>Friday, August 11</td>
</tr>
<tr>
<td>Final Exams</td>
<td>Final Exams</td>
</tr>
<tr>
<td>Mon-Fri, April 16-19</td>
<td>Mon-Fri, August 14-18</td>
</tr>
<tr>
<td>Commencement</td>
<td>Commencement</td>
</tr>
<tr>
<td>TBA</td>
<td>Saturday, August 16</td>
</tr>
</tbody>
</table>

**Makeup Days for Academic Year 2016-2017**

(*indicates required Makeup Day)
Thanksgiving Break Thurs-Fri, Nov. 24-25, 2016* Makeup, Friday Dec 2, 2016
MLK Holiday Monday January 16, 2017* Makeup, Friday Jan 20, 2017
Memorial Day Holiday, Monday, May 29, 2017 * Makeup, Friday June 2, 2017
July 4th Holiday M-T, July 3-4, 2017* Makeup, Friday July 7, 2017

FALL 2017
Registration Opens Friday, August 11
New Faculty Orientation Friday, August 25
Student Orientation Friday, August 25
Classes Begin Monday August 28
Drop/Add Period, Mon-Fri, August 28-September 1
Labor Day Holiday Monday September 4*
Thanksgiving Break Thurs-Fri, Nov. 22-23*
Classes End Friday December 8
Final Exams Mon-Fri December 11-15, 2017
Commencement: TBD

SPRING 2018
Registration Opens Monday Monday, December 4
New Faculty Orientation Friday, January 5
Student Orientation Friday, January 5
Classes Begin Monday, January 8
Drop/Add Period Mon-Fri, January 8-12
MLK Holiday Monday January 15*
Spring Break Mon-Fri, March 12 to 16
Classes End Friday, April 13
Final Exams Mon-Fri, April 16-20
Commencement: TBA

SUMMER 2018
Registration Opens | Monday, April 3  
New Faculty Orientation | Friday, April 27  
Student Orientation | Friday, April 27  
Classes Begin | Monday, April 30  
Drop/Add Period | Mon-Fri, Apr 30-May 4  
Memorial Day Holiday | Monday, May 28*  
July 4th Holiday | Wednesday, July 4*  
Classes End | Friday, August 3  
Final Exams | Mon-Fri, August 6-10  
Commencement | Saturday, August 16

**FALL 2018**

Registration Opens | Friday, August 10  
New Faculty Orientation | Friday, August 24  
Student Orientation | Friday, August 24  
Classes Begin | Monday August 27  
Drop/Add Period, | Mon-Fri, August 27-August 31  
Labor Day Holiday | Monday September 3*  
Thanksgiving Break | Thurs-Fri, Nov. 22-23*  
Classes End Friday | December 7  
Final Exams Mon-Fri | December 10-14, 2018  
Commencement: | TBD

**Makeup Days for Academic Year 2017-2018** (*indicates required Makeup Day*)

Labor Day Holiday, Monday September 4, 2017* | Makeup, Friday Sept 8, 2017  
Thanksgiving Break Thurs-Fri, Nov. 23-24, 2017* | Makeup, Friday Dec 1, 2017  
MLK Holiday Monday January 15, 2018* | Makeup, Friday January 19, 2018  
Memorial Day Holiday, Monday, May 28, 2018 * | Makeup, Friday June 1, 2018  
July 4th Holiday Wednesday, July 4, 2018* | Makeup, Friday July 6, 2018
BIOMEDICAL SCIENCES GRADUATE PROGRAMS

Application Procedures/ Requirements
1. Applicants must have (at minimum) a bachelor’s degree from a regionally accredited or internationally recognized college or university with a record of satisfactory academic work at the baccalaureate and/or graduate level.
2. All applicants for the Master’s degree should have an undergraduate GPA of 2.7 or better on a 4.0 scale.
3. Required pre-requisite courses include:
   - Biology 1 & 2 with labs
   - General Chemistry 1 & 2 with labs
   - Organic Chemistry 1 & 2 with labs
   - Physics 1 & 2 with labs
   - Statistics or Calculus
   - Evolution or Genetics
4. All applicants for the Master’s degree are required to submit an official Graduate Record Examination (GRE) score. Other standardized test scores at or above the 50th percentile (MCAT, DAT, VAT, and PCAT) may be substituted for the GRE.
5. Two recommendation letters from a basic or medical sciences professor.
6. A resume and a personal statement of educational/professional goals.

Schedule of Application and Admissions Cycle
The Institution offers three start terms-summer, spring, and fall. Applications are reviewed on a rolling admissions basis therefore, it is recommended that the application to the program and supporting documents are received as soon as possible.

Advisement
Each doctoral candidate in the Clinical and Translational Research Program will select their graduate advisor and have a graduate committee.
Doctor of Philosophy, Clinical and Translational Research

The Clinical and Translational Research Program has been designed to train biomedical science students and health care professionals in translational biomedical research. The curriculum provides a core of coursework with select electives to allow students to tailor their coursework to their research interests.

Program Objectives

The educational objectives for the Doctor in Clinical and Translational Research Program correlate with the three (3) goals of the curriculum: critical thinking, communication and professionalism.

Upon completion of the Program, the graduate shall have acquired knowledge, skills and competence related to the Program goals as evidenced by the ability to:

1. Analyze clinical or biological problems in healthcare (Critical Thinking).
2. Design experiments and analyze data (Critical Thinking).
3. Demonstrate collaboration by actively engaging in interdisciplinary local and global community outreach efforts for health promotion (Communication, Professionalism).
4. Participate in health-related research and scholarship (Professionalism).
5. Correlate principles of molecular and cellular pathology to selected health and disease states (Critical Thinking, Communication).
6. Demonstrate technology skills to enhance overall lifelong learning through peer-reviewed publications (Communication, Professionalism).
7. Demonstrate achievement of the Program’s objectives and synthesis of educational activities by completing a scholarly work in the form of a dissertation and a scientific presentation (Critical Thinking, Communication, and Professionalism).

Graduation Requirements

A total of 102 hours of graduate course work must be successfully completed, with a minimum grade point average of 3.0 (B) with no more than 8 credit hours of “C” grades in order to graduate with a PhD in the Clinical and Translational Research Program. Every doctoral student must present a dissertation to their advisor and graduate committee. It is necessary to successfully pass their dissertation before a student will obtain their PhD.
COURSE NUMBERING SYSTEM

The course numbering system consists of an alpha prefix followed by a digit course number. The Alpha Prefix identifies the academic discipline and the first digit specifies if the course belongs to an upper or lower division. The following digits are reserved for departmental use in indicating sequence of courses.

Course of Study

Curriculum Outline

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSB501</td>
<td>Biochemistry 1</td>
<td>3</td>
</tr>
<tr>
<td>MSB502</td>
<td>Biochemistry 2</td>
<td>3</td>
</tr>
<tr>
<td>MSB520</td>
<td>Molecular Genetics</td>
<td>3</td>
</tr>
<tr>
<td>CTR601</td>
<td>Preliminary Proposal</td>
<td>3</td>
</tr>
<tr>
<td>CTR700</td>
<td>Dissertation Research 1 (repeated course 3X)</td>
<td>12 (total 36)</td>
</tr>
<tr>
<td>CTR701</td>
<td>Dissertation Research 2 (repeated course 3X)</td>
<td>12 (total 36)</td>
</tr>
<tr>
<td>CTR900</td>
<td>Dissertation</td>
<td>CR/NC*</td>
</tr>
</tbody>
</table>

Total Core Courses: 84

Electives (Select 18 credit hours from the following)

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSB505</td>
<td>Frontiers in Medicine</td>
<td>1</td>
</tr>
<tr>
<td>MCA560</td>
<td>Cardio Anatomy &amp; Physiology</td>
<td>4</td>
</tr>
<tr>
<td>MSB550</td>
<td>Human Anatomy</td>
<td>4</td>
</tr>
<tr>
<td>MSB560</td>
<td>Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>CMB505</td>
<td>Laboratory Techniques &amp; Equipment</td>
<td>3</td>
</tr>
<tr>
<td>CMB510</td>
<td>Detection of Bacteria, Viruses, Fungi &amp; Parasites</td>
<td>3</td>
</tr>
<tr>
<td>CMB520</td>
<td>DNA, RNA and Immunological Methods</td>
<td>3</td>
</tr>
<tr>
<td>CMB530</td>
<td>Molecular Biology of Cancer</td>
<td>3</td>
</tr>
<tr>
<td>CMB540</td>
<td>Hematology &amp; Histology</td>
<td>3</td>
</tr>
<tr>
<td>MSB511</td>
<td>Immunology/Intro to Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>MSB512</td>
<td>Medical Microbiology 2</td>
<td>3</td>
</tr>
<tr>
<td>MSB530</td>
<td>Neuroscience and Neuroanatomy</td>
<td>4</td>
</tr>
</tbody>
</table>

Total credits for graduation: 102

*CR = Credit; NC = no credit
Course Descriptions

**MSB501 Biochemistry 1 (3)**
Biochemistry provides an introduction to the fundamental aspects of Biochemistry. It gives an overview of the structure, function and metabolism of biologically important molecules; carbohydrates, fatty acids, proteins and nucleic acids. Enzyme kinetics, allosteric inhibition, enzyme inhibition and control are considered in detail. The course concludes with a review of amino acid metabolism. Throughout, the emphasis is placed on the regulation of metabolic pathways and on their interrelationships in health and disease etiology, diagnosis and treatment. Cell membranes and the structure, function and replication of the cell’s genetic material are described. The digestion and absorption of nutrients is reviewed and the consequences of malfunction considered. A number of disease states are used to illustrate selected principles including the relationship between nutrition and disease; atherosclerosis, hyperlipidemia, obesity and diabetes. The application of clinical biochemistry techniques to disease diagnosis is described and the biochemistry of exercise and aging visited.

**MSB502 Biochemistry 2 (3)**
The course considers the principles of nutrition and its applications. In particular, selected biochemical aspects of nutrition and the biological effects of excess or deficiency of nutrients will be reviewed. The course has been designed so as to provide the necessary information to allow the student to make informed decisions with regard to nutritional well-being. It prompts the student to learn more about themselves, their diet and the maintenance of sustainable good health. It also serves to raise awareness of topical nutrition issues.

**MSB520 Molecular Genetics (3)**
This course discusses the genetic influences that affect the course of human development from reproduction through the prenatal, neonatal, pediatric, adolescent, and adult periods. Screening protocols, gene therapy, and new treatment modalities are covered including pharmacogenomics and epigenetics.

**CTR601 Preliminary Proposal (3)**
The course includes the writing of proposal in the format of a grant to present and defend to a graduate committee.

**CTR700 Dissertation Research 1 (12)**
The course is an intense study of a topic presented and approved in a preliminary proposal. Experiments will be performed and data collected under the supervision of a primary investigator (PI). The student will spend 600 hours in a lab or clinic a semester.

**CTR701 Dissertation Research 2 (12)**
A continuation of Dissertation Research. The student will continue to perform experiments, collect data and analyze data. The student will spend 600 hours in a lab or clinic a semester.

**CTR900 Dissertation (Credit or No Credit)**
A formal dissertation will be prepared and defended to a graduate committee. The dissertation will also be presented to the department of Biomedical Sciences as a scientific presentation.
Elective Course Descriptions

MSB505 Frontiers in Medicine (1)
This course covers contemporary topics in medicine with guest lecturers who are experts in their field of study.

MCA560 Cardio Anatomy & Physiology (4)
The course is a detailed analysis of the heart structures and functions and how they relate to organ physiology and the physiology of the whole body. Data obtained from electrophysiology studies and echocardiograms will also be analyzed and used to differentiate normal heart function from aberrations. The pathophysiology of the cardiac system will also be examined in fresh frozen cadavers.

MSB550 Human Anatomy (4)
An intensive study of the human anatomy that emphasizes the gross structural anatomy of the human body and correlation to clinical medicine. The human body will be correlated with surface anatomy, radiology, osteology and other relevant clinical information.

MSB560 Human Physiology (4)
This course is a comprehensive study of the function and regulation of human organ systems of the body and physiological integration of the systems to maintain homeostasis. Course will include neural & hormonal homeostatic control mechanisms, and study of the musculoskeletal, circulatory, respiratory, digestive, urinary, immune, reproductive, endocrine systems and fluid electrolyte balance.

CMB505 Laboratory Techniques & Equipment (3)
The course examines the theory and methods used in a clinical laboratory to analyze biological specimens. Techniques and automated equipment are studied relative to biochemical, biological and molecular tests.

CMB510 Detection of Bacteria, Viruses, Fungi & Parasites (3)
The course investigates the numerous techniques used to differentiate micro-organisms, pathogens and parasites. Methods used to detect include microscopy, tissue culture and cytopathic effects, DNA and RNA amplification, microarrays, sequencing, serology and immunoassays.

CMB520 DNA, RNA and Immunological Methods (3)
The course immerses the student in the world of molecular diagnostics with a focus on DNA, RNA and antibody-based methods. Principles of DNA amplification (Polymerase chain reaction or PCR) are studied in detail including reverse-transcription PCR, quantitative PCR and real-time PCR. Western methods, ELISAs and Immunological methods are also studied and compared to DNA and RNA methods.

CMB530 Molecular Biology of Cancer (3)
The course is an in depth study of the molecular mechanisms that lead to different types of cancer. Gross changes in chromosomal translocations are studied along with single-nucleotide polymorphisms and how each are detected and used to identify cancer risks. Viruses and oncogenes are also examined along with alterations in the normal cell cycle. The latest molecular techniques used to screen for cancer and to diagnose cancer are also evaluated and compared to traditional methods.
CMB540 Hematology & Histology (3)
The course examines the staining methods and techniques used to identify cellular structures and func-
tions of the cell. Blood and specific tissues are analyzed at the microscopic level to examine morphological
features and identify organelles that function in the role of the cells or tissues. Pathological effects on the
cells are also examined relative to infectious disease.

MSB511 Immunology & Intro to Medical Microbiology (3)
This course presents fundamental concepts of immunology and the role of the immune system in health
and disease, and the use of serological and antibody-based methods in the clinical lab. A Review of the
biological effects of immunologic reactions, antibody formation and interactions, and immunological
specificity of normal and diseased cells and tissues will be discussed.

MSB512 Medical Microbiology 2 (3)
The fundamentals of microbial physiology, genetics and immunology are presented with important bac-
terial, viral, parasitic and mycotic infections discussed from the standpoint of etiology, epidemiology, and
pathogenesis and laboratory diagnosis. Treatment, prevention, and control of microorganisms are also
discussed.

MSB530 Neuroscience and Neuroanatomy (4)
This course will provide an in-depth review of the neuroanatomy of the central and peripheral nervous
systems. The course will include presentation of the morphologic and physiologic aspects of the nervous
system, including examination of anatomical models, prosections and histological preparations. Clinical
correlations using case studies including normal and pathological imaging studies (e.g. MRI, CT) are incor-
porated to emphasize the important anatomic structures and their function.
Master of Science, Biomedical Sciences

The Masters in Biomedical Sciences Program has been designed to prepare students to advance as biomedical scientists or health care professionals. Specifically, the curriculum has been designed to educate students through rigorous, graduate level science courses in order to strengthen their application for graduate and professional school. The core basic science courses are similar to those found in the first year of the medical/dental school curriculum. Program options are as follows:

Master’s Degree in Biomedical Sciences:
• 2-Term Track, Pre-Med, or Pre-Dental
• 3-Term Track, Pre-Med, or Pre-Dental
• Pharmacy Track
• Medical Track
• Research Track

The program consists of 33 credit hours of didactic instruction (Pre-Med and Pre-Dental, Pre-Pharmacy) and a comprehensive final exam (CR) or 25 credit hours of didactic instruction and a research project (8 hours).

Program Objectives
The educational objectives for the Program correlate with the three (3) goals of the curriculum: critical thinking, communication and professionalism.
Upon completion of the Program, the graduate shall have acquired knowledge, skills and competence related to the Program goals as evidenced by the ability to:

1. Analyze individual case studies and evaluate clinical treatments relative to biochemical, genetic, physical, and microbial diagnostics (Critical Thinking).
2. Formulate an appropriate dietary regimen (nutrition plan) based on a thorough understanding of Biochemistry and Physiology and the present health status of the individual (Critical Thinking).
3. Demonstrate collaboration by actively engaging in interdisciplinary local and global community outreach efforts for health promotion (Communication, Professionalism).
4. Participate in health-related research and scholarship (Professionalism).
5. Correlate principles of molecular and cellular immunology to selected health and disease states (Critical Thinking, Communication).
6. Demonstrate technology skills to enhance overall lifelong learning through peer-reviewed publications (Communication, Professionalism).
7. Demonstrate achievement of the Program’s objectives and synthesis of educational activities by completing a scholarly work in the form of a comprehensive examination or research proposal (Critical Thinking, Communication, Professionalism).
Graduation Requirements
A student must complete 33 credit hours of graduate course work with a minimum grade point average of 3.0 (B) with no more than 8 credit hours of “C” grades in order to graduate with the Masters of Science in Biomedical Sciences degree. Courses with F grades must be repeated and replaced with grades of B or better.

Medical, Dental, Pharmacy, Research Track
Master’s students must register for and take one of the professional school aptitude tests before or during the Biomedical Sciences Program. The specific test to be taken is based on the student’s professional choice and include but are limited to: Medical department Admissions Test (MCAT), Dental Aptitude Test (DAT), or the Pharmacy department Admission Test (PCAT). Student must provide evidence of taking a professional aptitude test before graduation.

At the conclusion of the Program each student must pass a comprehensive qualifying examination based on the required courses and electives selected by that student. To be eligible for the comprehensive exam a student must have achieved a minimum 3.0 CGPA with no more than 8 semester hours of C grades and no “F” grades and must have satisfied all provisions for admission.

A student may only sit for the comprehensive exam a maximum of three times, including all attempts at other national medical board examinations. Pharmacy track students must complete a research project/paper (thesis). Pharmacy students are not required to sit for the comprehensive examination.

Research Track
Research track students must complete a research project/paper (thesis). The laboratory research project and capstone project will be evaluated by a graduate committee composed of an outside advisor, a Larkin University faculty member or the Dean. Students in the research track are not required to sit for the comprehensive examination.
# Course of Study

## Curriculum Outline
### Core Curriculum (21 Credit Hours)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Titles</th>
<th>Credit Hours</th>
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<tr>
<td>MSB501</td>
<td>Biochemistry 1</td>
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<td>MSB502</td>
<td>Biochemistry 2</td>
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<tr>
<td>MSB511</td>
<td>Immunology &amp; Medical Microbiology I</td>
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<tr>
<td>MSB512</td>
<td>Medical Microbiology II</td>
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<td>Molecular Genetics</td>
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<td>MSB530</td>
<td>Neuroscience and Neuroanatomy</td>
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### Medical Track (Core plus 12 Credit Hours)

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<tr>
<td>MSB540</td>
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<tr>
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### Dental Track (Core plus 12 Credit Hours)

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### Pharmacy Track (Core plus 12 credits)

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<td>MSPH501</td>
<td>Foundations in Pharmaceutical Sciences</td>
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<td>MSPH502</td>
<td>Introduction to Clinical Pharmacy</td>
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Program Total Hours 33
Course Descriptions

MSB501 Biochemistry 1 (3)
Biochemistry provides an introduction to the fundamental aspects of Biochemistry. It gives an overview of the structure, function and metabolism of biologically important molecules; carbohydrates, fatty acids, proteins and nucleic acids. Enzyme kinetics, allosteric inhibition, enzyme inhibition and control are considered in detail. The course concludes with a review of amino acid metabolism. Throughout, the emphasis is placed on the regulation of metabolic pathways and on their interrelationships in health and disease. Cell membranes and the structure, function and replication of the cell’s genetic material are described. The digestion and absorption of nutrients is reviewed and the consequences of malfunction considered. A number of disease states are used to illustrate selected principles including the relationship between nutrition and disease; atherosclerosis, hyperlipidemia, obesity and diabetes. The application of clinical biochemistry techniques to disease diagnosis is described and the biochemistry of exercise and aging visited.

MSB502 Biochemistry 2 (3)
The course considers the principles of nutrition and its applications. In particular, selected biochemical aspects of nutrition and the biological effects of excess or deficiency of nutrients will be reviewed. The course has been designed so as to provide the necessary information to allow the student to make informed decisions with regard to nutritional well-being. It prompts the student to learn more about themselves, their diet and the maintenance of sustainable good health. It also serves to raise awareness of topical nutrition issues.

MSB511 Immunology & Intro to Medical Microbiology (3)
This course presents fundamental concepts of immunology and the role of the immune system in health and disease, and the use of serological and antibody-based methods in the clinical lab. A review of the biological effects of immunologic reactions, antibody formation and interactions, and immunological specificity of normal and diseased cells and tissues will be discussed.

MSB512 Medical Microbiology 2 (3)
The fundamentals of microbial physiology, genetics and immunology are presented with important bacterial, viral, parasitic and mycotic infections discussed from the standpoint of etiology, epidemiology, and pathogenesis and laboratory diagnosis. Treatment, prevention, and control of microorganisms are also discussed.

MSB520 Molecular Genetics (4)
This course discusses the genetic influences that affect the course of human development from reproduction through the prenatal, neonatal, pediatric, adolescent, and adult periods. Screening protocols, gene therapy, and new treatment modalities are covered including pharmacogenomics and epigenetics.

MSB530 Neuroscience and Neuroanatomy (4)
This course will provide an in-depth review of the neuroanatomy of the central and peripheral nervous systems. The course will include presentation of the morphologic and physiologic aspects of the nervous system, including examination of anatomical models, dissections and histological preparations. Clinical correlations using case studies including normal and pathological imaging studies (e.g. MRI, CT) are incorporated to emphasize the important anatomic structures and their function.
MSB 589 Professional Development Seminar (1)
This course will prepare students to develop and compose applications, personal statements, curriculum vita/resumes, and cover letters necessary for successful application and matriculation to professional schools. Students will identify their strengths, skills and experiences that are most beneficial to their personal school professional choices. Practice presentations and interviews will be conducted to allow students to improve chances of acceptance.

MSB540 Pathophysiology (4)
This course is designed to promote understanding and application of fundamental disease processes in clinical settings. It is a systematic study of disease processes involving relationships between pathophysiological changes and clinical manifestations. Students will study the essential mechanism and sequence of events leading to the development and functional changes associated with disease process. General concepts of diseases, including etiology, pathogenesis, morphology and biochemistry will be discussed. General pathophysiology concepts including cell injury, necrosis, inflammation, wound healing, and neoplasia will be explored.

MSB550 Human Anatomy (4)
An intensive study of the human anatomy that emphasis the gross structural anatomy of the human body and correlation to clinical medicine. The human body will be correlated with surface anatomy, radiology, osteology and other relevant clinical information.

MSB560 Human Physiology (4)
This course is a comprehensive study of the function and regulation of human organ systems of the body and physiological integration of the systems to maintain homeostasis. Course will include neural & hormonal homeostatic control mechanisms, and study of the musculoskeletal, circulatory, respiratory, digestive, urinary, immune, reproductive, endocrine systems and fluid electrolyte balance.

MSB570 General Dentistry (4)
This introductory course will provide students with a career interest in dentistry, an overview of the dental profession, general practice, related specialties and business aspects of dentistry. The course will provide students with a basic understanding of the legal issues including medical malpractice, licensing, and administrative and corporate law/governance pertaining to dental health services in addition to ethical and social issues in dental health care.

MSB590 Thesis
Master's students in the Research or Pharmacy track must complete a formal written thesis as a monograph and approved by the student's respective thesis committee.

MSB591 Research 1 (4)
A research project under the guidance of an advisor with input from a Thesis Committee. The committee will consist of Advisor, Dean and one other faculty member. Prior to the start of the project the committee must approve specific guidelines and protocols. The research student is expected to commit 160 hours or more a term to the research project documenting experiments, data and data analysis in a laboratory notebook or tablet. The project may occur in a laboratory, in the medical field, or a clinic.
**MSB592 Research 2 (4)**
Research project continuing from 591 Research 1. Again, the research student is expected to commit 160 hours or more a term to the research project documenting experiments, data and data analysis in a laboratory notebook or tablet. The research student is expected to commit 160 hours or more a term to the research project documenting experiments, data and data analysis in a laboratory notebook or tablet. The project may occur in a laboratory, in the medical field, or a clinic. Data analysis will be presented as a poster or presentation, and a final thesis will be written and evaluated by the Thesis Committee.

**MSPH501 Foundations in Pharmaceutical Sciences (4)**
The pharmaceutical sciences refer to a collection of closely related disciplines that study the discovery, development and use of drugs to treat diseases. Various specialty areas of pharmaceutical sciences include medicinal chemistry, pharmacology, pharmaceutics, and pharmacokinetics. Foundations in Pharmaceutical Sciences provides an integrated, in-depth, and coherent overview of pharmaceutical science concepts. This course examines fundamental principles that underlie all of the pharmaceutical science disciplines, reveals the connections between them, and highlights their pharmaceutical and therapeutic applications.

**MSPH502 Introduction to Clinical Pharmacy (4)**
This course is designed to explore the many facets of the pharmacy profession. The course will provide an overview of the pharmacy training paradigm, including an overview of formalized pharmacy school curricula and post-graduate training opportunities. To better understand the role of pharmacists, students will be exposed to the history and evolution of the profession with an emphasis on contemporary pharmacy practice. The role of pharmacists in traditional practice venues (e.g. community and institutional practice) as well as in more specialized practice opportunities (e.g. home infusion, specialty pharmacy, clinical specialists) will be examined. Within the framework of existing pharmacy law and practice, the course will describe how pharmacists interact with patients and other health care practitioners within an interdisciplinary environment. The course will also provide students with an understanding of potential changes within the health care arena and how these changes might impact the profession in the near future.

*Course numbers ending with a 0 are not sequential and may be taken in any term. Course numbers ending with a 1, 2 or 3 are sequential and must be taken after the previous number ending in a 1. For example, 512 Medical Microbiology is to be taken after 511 Immunology*
Master of Science, Clinical Anatomy
The Masters in Clinical Anatomy Program has been designed to thoroughly train biomedical science students and health care professionals in the art of surgical anatomy and anatomical sciences. Specifically, the curriculum has been designed to educate and train students through rigorous, graduate level science courses along with hands on training using human cadavers and shadowing surgical residents and hospital surgeons.

Program Objectives
The educational objectives for the Program correlate with the three (3) goals of the curriculum: critical thinking, communication and professionalism.

Upon completion of the Program, the graduate shall have acquired knowledge, skills and competence related to the Program goals as evidenced by the ability to:

1. Analyze individual surgeries and evaluate procedural and clinical outcomes (Critical Thinking).
2. Design appropriate surgical procedures with a thorough understanding of Anatomy & Physiology and the present health status of the individual (Critical Thinking).
3. Demonstrate collaboration by actively engaging in interdisciplinary local and global community outreach efforts for health promotion (Communication, Professionalism).
4. Participate in health-related research and scholarship (Professionalism).
5. Correlate principles of molecular and cellular pathology to selected health and disease states (Critical Thinking, Communication).
6. Demonstrate technology skills to enhance overall lifelong learning through peer-reviewed publications (Communication, Professionalism).
7. Demonstrate achievement of the Program’s objectives and synthesis of educational activities by completing a scholarly work in the form of a research project (thesis) and a scientific presentation (Critical Thinking, Communication, Professionalism).

Graduation Requirement
A student must complete 36 credit hours of graduate course work with a minimum grade point average of 3.0 (B) with no more than 8 credit hours of “C” grades in order to graduate with the Masters of Science in Clinical Anatomy degree. Courses with F grades must be repeated and replaced with grades of B or better.
## COURSE OF STUDY

### Curriculum Outline

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Titles</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MCA530</td>
<td>Neuroanatomy with Surgical Techniques</td>
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<td>MCA550</td>
<td>Human Anatomy with Surgical Techniques</td>
<td>7</td>
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<tr>
<td>MCA560</td>
<td>Cardio Anatomy &amp; Physiology</td>
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<tr>
<td>MCA591</td>
<td>Research 1</td>
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<td>MSB600</td>
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**Total** 27

**Electives (Select 9 credit hours from the following)**

<table>
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<tr>
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<tr>
<td>MSB501</td>
<td>Biochemistry 1</td>
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<tr>
<td>MSB502</td>
<td>Biochemistry 2</td>
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<tr>
<td>MSB505</td>
<td>Frontiers in Medicine</td>
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<tr>
<td>MSB511</td>
<td>Immunology/Intro to Med Microbiology</td>
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<td>MSB512</td>
<td>Medical Microbiology 2</td>
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<td>MSB520</td>
<td>Molecular Genetics</td>
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<td>MSB550</td>
<td>Human Anatomy</td>
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<tr>
<td>MSB560</td>
<td>Human Physiology</td>
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<tr>
<td>CMB505</td>
<td>Laboratory Techniques &amp; Equipment</td>
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<td>CMB510</td>
<td>Detection of Bacteria, Viruses, Fungi &amp; Parasites</td>
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<td>CMB520</td>
<td>DNA, RNA and Immunological Methods</td>
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<td>CMB530</td>
<td>Molecular Biology of Cancer</td>
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</tr>
<tr>
<td>CMB540</td>
<td>Hematology &amp; Histology</td>
<td>3</td>
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</table>

**Total** 36

*CR = Credit/NC = no credit*
Course Descriptions

MCA530 Neuroanatomy with Surgical Techniques (6)
The course is an in depth study of the Gross Anatomy of the human central nervous system and its location relative to surgical procedures. The use of a fresh-frozen cadaver provides the student the opportunity to practice surgical techniques and to dissect a cadaver to study Neuroanatomical structures.

MCA550 Human Anatomy with Surgical Techniques (7)
The course is an in depth study of Human Anatomy relative to surgical procedures. The use of a fresh-frozen cadaver provides the student the opportunity to practice surgical techniques and to dissect a cadaver to study Anatomical structures.

MCA560 Cardio Anatomy & Physiology (4)
The course is a detailed analysis of the heart structures and functions and how they relate to organ physiology and the physiology of the whole body. Data obtained from electrophysiology studies and echocardiograms will also be analyzed and used to differentiate normal heart function from aberrations. The Pathophysiology of the cardiac system will also be examined in fresh frozen cadavers.

MCA591 Research 1 (5)
A research course addressing a topic in Clinical Anatomy. The student will commit to 160 hours in a laboratory or clinic to study the topic. Reports and data will be generated for the student thesis.

MCA592 Research 2 (5)
A continuation of research where the student will continue to generate and collect data for the thesis.

MSB600 Thesis (Cr/NC)
Master’s students in the Research track must complete a formal written thesis as a monograph and approved by the students respective thesis committee.

Elective Course Descriptions

MSB501 Biochemistry 1 (3)
Biochemistry provides an introduction to the fundamental aspects of Biochemistry. It gives an overview of the structure, function and metabolism of biologically important molecules; carbohydrates, fatty acids, proteins and nucleic acids. Enzyme kinetics, allosteric inhibition, enzyme inhibition and control are considered in detail. The course concludes with a review of amino acid metabolism. Throughout, the emphasis is placed on the regulation of metabolic pathways and on their interrelationships in health and disease etiology, diagnosis and treatment. Cell membranes and the structure, function and replication of the cell’s genetic material are described. The digestion and absorption of nutrients is reviewed and the consequences of malfunction considered. A number of disease states are used to illustrate selected principles including the relationship between nutrition and disease; atherosclerosis, hyperlipidemia, obesity and diabetes. The application of clinical biochemistry techniques to disease diagnosis is described and the biochemistry of exercise and aging visited.
**MSB502 Biochemistry 2 (3)**
The course considers the principles of nutrition and its applications. In particular, selected biochemical aspects of nutrition and the biological effects of excess or deficiency of nutrients will be reviewed. The course has been designed so as to provide the necessary information to allow the student to make informed decisions with regard to nutritional well-being. It prompts the student to learn more about themselves, their diet and the maintenance of sustainable good health. It also serves to raise awareness of topical nutrition issues.

**MSB505 Frontiers in Medicine (1)**
This course covers contemporary topics in medicine with guest lecturers who are experts in their field of study.

**MSB511 Immunology & Intro to Med Microbiology (3)**
This course presents fundamental concepts of immunology and the role of the immune system in health and disease, and the use of serological and antibody-based methods in the clinical lab. A Review of the biological effects of immunologic reactions, antibody formation and interactions, and immunological specificity of normal and diseased cells and tissues will be discussed.

**MSB512 Medical Microbiology 2 (3)**
The fundamentals of microbial physiology, genetics and immunology are presented with important bacterial, viral, parasitic and mycotic infections discussed from the standpoint of etiology, epidemiology, and pathogenesis and laboratory diagnosis. Treatment, prevention, and control of microorganisms are also discussed.

**MSB520 Molecular Genetics (3)**
This course discusses the genetic influences that affect the course of human development from reproduction through the prenatal, neonatal, pediatric, adolescent, and adult periods. Screening protocols, gene therapy, and new treatment modalities are covered including pharmacogenomics and epigenetics.

**MSB550 Human Anatomy (4)**
An intensive study of the human anatomy that emphasis the gross structural anatomy of the human body and correlation to clinical medicine. The human body will be correlated with surface anatomy, radiology, osteology and other relevant clinical information.

**MSB560 Human Physiology (4)**
This course is a comprehensive study of the function and regulation of human organ systems of the body and physiological integration of the systems to maintain homeostasis. Course will include neural & hormonal homeostatic control mechanisms, and study of the musculoskeletal, circulatory, respiratory, digestive, urinary, immune, reproductive, endocrine systems and fluid electrolyte balance.

**CMB505 Laboratory Techniques & Equipment (3)**
The course examines the theory and methods used in a clinical laboratory to analyze biological specimens. Techniques and automated equipment are studied relative to biochemical, biological and molecular tests.
CMB510 Detection of Bacteria, Viruses, Fungi & Parasites (3)
The course investigates the numerous techniques used to differentiate micro-organisms, pathogens and parasites. Methods used to detect include microscopy, tissue culture and cytopathic effects, DNA and RNA amplification, microarrays, sequencing, serology and immunoassays.

CMB520 DNA, RNA and Immunological Methods (3)
The course immerses the student in the world of molecular diagnostics with a focus on DNA, RNA and antibody-based methods. Principles of DNA amplification (Polymerase chain reaction or PCR) are studied in detail including reverse-transcription PCR, quantitative PCR and real-time PCR. Western methods, ELISAs and Immunological methods are also studied and compared to DNA and RNA methods.

CMB530 Molecular Biology of Cancer (3)
The course is an in depth study of the molecular mechanisms that lead to different types of cancer. Gross changes in chromosomal translocations are studied along with single-nucleotide polymorphisms and how each are detected and used to identify cancer risks. Viruses and oncogenes are also examined along with alterations in the normal cell cycle. The latest molecular techniques used to screen for cancer and to diagnose cancer are also evaluated and compared to traditional methods.

CMB540 Hematology & Histology (3)
The course examines the staining methods and techniques used to identify cellular structures and functions of the cell. Blood and specific tissues are analyzed at the microscopic level to examine morphological features and identify organelles that function in the role of the cells or tissues. Pathological effects on the cells are also examined relative to infectious disease.
Master of Science, Clinical Cellular and Molecular Biology

The Clinical Cellular & Molecular Biology Program has been designed to thoroughly train biomedical science students and health-care professionals in the clinical diagnosis and laboratory detection of cancer, cellular biology, infectious disease and molecular disorders. The curriculum has been developed to educate and train students through rigorous, graduate level science courses along with hands on training using clinical and laboratory equipment.

Program Objectives

The educational objectives for the Program correlate with the three (3) goals of the curriculum: critical thinking, communication and professionalism.

Upon completion of the Program, the graduate shall have acquired knowledge, skills and competence related to the Program goals as evidenced by the ability to:

1. Analyze individual cases and evaluate clinical outcomes (Critical Thinking).
2. Design appropriate laboratory procedures with a thorough understanding of Molecular and Cellular Biology and the present health status of the individual (Critical Thinking).
3. Demonstrate collaboration by actively engaging in interdisciplinary local and global community outreach efforts for health promotion (Communication, Professionalism).
4. Participate in health-related research and scholarship (Professionalism).
5. Correlate principles of molecular and cellular pathology to selected health and disease states (Critical Thinking).
6. Demonstrate technology skills to enhance overall lifelong learning through peer-reviewed publications (Communication, Professionalism).
7. Develop a laboratory operations manual according to inventory and CLIA policies (Communication, Professionalism). Demonstrate achievement of the Program’s objectives and synthesis of educational activities by completing a scholarly work in the form of a research project (thesis) and a scientific presentation or by passing a comprehensive examination (Critical Thinking, Communication, Professionalism).

Graduation requirement

A student must complete 35 credit hours of graduate course work including two terms of Clinical Practicum in an approved and licensed clinical laboratory with a minimum grade point average of 3.0 (B) with no more than 8 credit hours of “C” grades in order to graduate with the Masters of Science in Clinical Cellular and Molecular Biology degree. Courses with F grades must be repeated and replaced with grades of B or better.
**Course of Study**

**Curriculum Outline**

### Thesis Track

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</table>

### Non-thesis Track

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Course Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMB505</td>
<td>Laboratory Techniques &amp; Equipment</td>
<td>3</td>
</tr>
<tr>
<td>MSB501</td>
<td>Biochemistry 1</td>
<td>3</td>
</tr>
<tr>
<td>MSB511</td>
<td>Immunology/Intro to Med Micro</td>
<td>3</td>
</tr>
<tr>
<td>MSB512</td>
<td>Medical Microbiology 2</td>
<td>3</td>
</tr>
<tr>
<td>MSB520</td>
<td>Molecular Genetics</td>
<td>3</td>
</tr>
<tr>
<td>CMB510</td>
<td>Detection of Bacteria, Viruses, Fungi &amp; Parasites</td>
<td>3</td>
</tr>
<tr>
<td>CMB520</td>
<td>DNA, RNA and Immunological Methods</td>
<td>3</td>
</tr>
<tr>
<td>CMB530</td>
<td>Molecular Biology of Cancer</td>
<td>3</td>
</tr>
<tr>
<td>CMB540</td>
<td>Hematology &amp; Histology</td>
<td>3</td>
</tr>
<tr>
<td>CMB550</td>
<td>Clinical Laboratory Practicum I</td>
<td>4</td>
</tr>
<tr>
<td>CMB650</td>
<td>Clinical Laboratory Practicum II</td>
<td>4</td>
</tr>
<tr>
<td>MSB593</td>
<td>Comprehensive Exam</td>
<td>CR/NC*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>35</strong></td>
</tr>
</tbody>
</table>

*CR = Credit/NC = no credit
Course Descriptions

CMB505 Laboratory Techniques & Equipment (3)
The course examines the theory and methods used in a clinical laboratory to analyze biological specimens. Techniques and automated equipment are studied relative to biochemical, biological and molecular tests.

MSB501 Biochemistry 1 (3)
Biochemistry provides an introduction to the fundamental aspects of Biochemistry. It gives an overview of the structure, function and metabolism of biologically important molecules; carbohydrates, fatty acids, proteins and nucleic acids. Enzyme kinetics, allosteric inhibition, enzyme inhibition and control are considered in detail. The course concludes with a review of amino acid metabolism. Throughout, the emphasis is placed on the regulation of metabolic pathways and on their interrelationships in health and disease etiology, diagnosis and treatment. Cell membranes and the structure, function and replication of the cell’s genetic material are described. The digestion and absorption of nutrients is reviewed and the consequences of malfunction considered. A number of disease states are used to illustrate selected principles including the relationship between nutrition and disease; atherosclerosis, hyperlipidemia, obesity and diabetes. The application of clinical biochemistry techniques to disease diagnosis is described and the biochemistry of exercise and aging visited.

MSB511 Immunology & Intro to Med Microbiology (3)
This course presents fundamental concepts of immunology and the role of the immune system in health and disease, and the use of serological and antibody-based methods in the clinical lab. A Review of the biological effects of immunologic reactions, antibody formation and interactions, and immunological specificity of normal and diseased cells and tissues will be discussed.

MSB512 Medical Microbiology 2 (3)
The fundamentals of microbial physiology, genetics and immunology are presented with important bacterial, viral, parasitic and mycotic infections discussed from the standpoint of etiology, epidemiology, and pathogenesis and laboratory diagnosis. Treatment, prevention, and control of microorganisms are also discussed.

MSB520 Molecular Genetics (3)
This course discusses the genetic influences that affect the course of human development from reproduction through the prenatal, neonatal, pediatric, adolescent, and adult periods. Screening protocols, gene therapy, and new treatment modalities are covered including pharmacogenomics and epigenetics.

CMB510 Detection of Bacteria, Viruses, Fungi & Parasites (3)
The course investigates the numerous techniques used to differentiate micro-organisms, pathogens and parasites. Methods used to detect include microscopy, tissue culture and cytopathic effects, DNA and RNA amplification, microarrays, sequencing, serology and immunoassays.

CMB520 DNA, RNA and Immunological Methods (3)
The course immerses the student in the world of molecular diagnostics with a focus on DNA, RNA and antibody-based methods. Principles of DNA amplification (Polymerase chain reaction or PCR) are studied in detail including reverse-transcription PCR, quantitative PCR and real-time PCR. Western methods, ELISAs and Immunological methods are also studied and compared to DNA and RNA methods.
**CMB530 Molecular Biology of Cancer (3)**
The course is an in depth study of the molecular mechanisms that lead to different types of cancer. Gross changes in chromosomal translocations are studied along with single-nucleotide polymorphisms and how each are detected and used to identify cancer risks. Viruses and oncogenes are also examined along with alterations in the normal cell cycle. The latest molecular techniques used to screen for cancer and to diagnose cancer are also evaluated and compared to traditional methods.

**CMB540 Hematology & Histology (3)**
The course examines the staining methods and techniques used to identify cellular structures and functions of the cell. Blood and specific tissues are analyzed at the microscopic level to examine morphological features and identify organelles that function in the role of the cells or tissues. Pathological effects on the cells are also examined relative to infectious disease.

**CMB550 Clinical Laboratory Practicum I (4)**
The course is a hands-on experience at a clinical laboratory. Students will spend 20 hours a week actively engaging in the clinical laboratory and documenting their experiences with a laboratory notebook.

**CMB650 Clinical Laboratory Practicum II (4)**
The course is a continuation of Clinical Laboratory Practicum I in a subsequent semester where the student will continue to actively participate in the clinical laboratory with laboratory notebook documentation.

**MSB600 Thesis (CR/NC)**
Master’s students in the Research track must complete a formal written thesis as a monograph and approved by the student’s respective thesis committee.

**MSB593 Comprehensive Exam (CR/NC)**
Master’s students are introduced to research in cellular and molecular biology through lectures, intensive small group discussions focused on critical analysis of basic research papers from a wide range of fields including biochemistry, genetics, genomics, mechanism of inheritance, cell and developmental biology, stem cell development, modeling complex systems. Faculty will mentor students’ research projects.
DEPARTMENT OF HEALTH SCIENCES

MISSION STATEMENT
To develop students with the technical skills, confidence and knowledge needed to fulfill their professional and personal goals in the health care industry, as well as benefit their communities. Our goal is to impart in our students a high degree of personal integrity, dependability, and reliability.

DEGREE PROGRAMS
Associate of Science, Diagnostic Medical Sonography (72 Credit Hours)
Associate of Science, Radiologic Technology (73 Credit Hours)

TUITION AND FEES
All costs are subject to change and students will be notified of any changes.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Credit (AS Diagnostic Medical Sonography)</td>
<td>$666.00</td>
</tr>
<tr>
<td>Per Credit (AS Radiologic Technology)</td>
<td>$630.00</td>
</tr>
<tr>
<td>Tuition Late Payment</td>
<td>$150.00</td>
</tr>
<tr>
<td>Loan Origination Fee</td>
<td>Determined by Lender</td>
</tr>
<tr>
<td>Returned Check</td>
<td>$100.00</td>
</tr>
<tr>
<td>Lost I.D. Card</td>
<td>$20.00</td>
</tr>
<tr>
<td>Transcript, Each Official</td>
<td>$10.00</td>
</tr>
<tr>
<td>Health Insurance</td>
<td>Variable</td>
</tr>
<tr>
<td>Graduation Application Fee**</td>
<td>$150.00</td>
</tr>
<tr>
<td>Late Registration</td>
<td>$100.00</td>
</tr>
<tr>
<td>Deposit (Counts Towards Tuition; 50% Refundable)</td>
<td>$500.00</td>
</tr>
</tbody>
</table>

**Fee applies each time a student registers for Graduation

REFUND SCHEDULE

<table>
<thead>
<tr>
<th>Week</th>
<th>Through the end of the drop/add period: 100% tuition and fees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>75% tuition refunded, no fees refunded</td>
</tr>
<tr>
<td>Week 2</td>
<td>50% tuition refunded, no fees refunded</td>
</tr>
<tr>
<td>Week 3</td>
<td>25% tuition refunded, no fees refunded</td>
</tr>
<tr>
<td>Week 4</td>
<td>0% tuition refunded, no fees refunded</td>
</tr>
</tbody>
</table>

*Note: All students who withdraw will be charged a $75 withdrawal fee. A student is considered registered until the date on which the Office of the Dean receives written notice of withdrawal.

Any late fee payments and conditions thereof must be disclosed on the enrollment agreement and in the catalog.
PHARMACY

MISSION STATEMENT
To develop an academic community engaged in teaching, research, scholarship and service that prepares pharmacists for compassionate, evidence-based and interprofessional practice in diverse settings.

VISION
To be recognized as a community that is a catalyst for innovation and collaboration in health care.

CORE VALUES
- Accountability
- Collaboration
- Excellence
- Learner Centered
- Scholarship
- Social Justice
- Professionalism

ADMINISTRATION
Gary M. Levin, Pharm.D., BCPP, FCCP
Dean, College of Pharmacy

Sandra Benavides, Pharm.D., FCCP, FPPAG
Associate Dean for Academic Affairs and Assessment
Interim Chair, Department of Clinical and Administrative Sciences

Lynne Arric, M.S., Ed.D.
Assistant Dean of Student Affairs and Admissions

Kathleen Jodoin, Pharm.D., BCPS
Assistant Dean of Experiential Education

Anupam Bishayee, B.Pharm., M.Pharm., Ph.D
Chair, Department of Pharmaceutical Sciences

Joshua Caballero, PharmD, BCPP, FCCP
Chair, Department of Clinical and Administrative Sciences

DEGREE PROGRAMS
Doctor of Pharmacy (Pharm.D.) (141 Credits)
TUITION AND FEES
All costs are subject to change and students will be notified of any changes.

<table>
<thead>
<tr>
<th></th>
<th>Tuition &amp; Fees</th>
<th>**Miscellaneous Costs</th>
<th>Total Fall/Spring COA</th>
<th>**Miscellaneous Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fall 2016</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuition</td>
<td>$22,150.00</td>
<td>$11,420.00</td>
<td>$33,570.00</td>
<td>Health Insurance</td>
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<tr>
<td></td>
<td>$17,600 +</td>
<td></td>
<td></td>
<td>$3,100.00</td>
</tr>
<tr>
<td></td>
<td>*$4,550</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Spring 2017</strong></td>
<td>$17,600.00</td>
<td>$11,420.00</td>
<td>$29,010.00</td>
<td>Books/Supplies</td>
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<tr>
<td></td>
<td>$11,420.00</td>
<td></td>
<td></td>
<td>$450.00</td>
</tr>
<tr>
<td>Total</td>
<td>$39,750.00</td>
<td>$22,840.00</td>
<td>$62,590.00</td>
<td>Transportation</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$1,200.00</td>
</tr>
<tr>
<td><strong>Summer 2017</strong></td>
<td>$8,800.00</td>
<td>$5,710.00</td>
<td>$14,510.00</td>
<td>Board (Meals)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4,800.00</td>
</tr>
<tr>
<td>Total</td>
<td>$8,800.00</td>
<td>$5,710.00</td>
<td>$14,510.00</td>
<td>Personal</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4,000.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td>$28,550.00</td>
</tr>
<tr>
<td><strong>Mandatory Fees</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology Fee</td>
<td>$ 2,150.00</td>
<td>Professional Liability Fee $ 200.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer &amp; Software Licensing-(Year 1 only)</td>
<td>$ 1,500.00</td>
<td>Student Services Fee $ 200.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lab Fee - (Year 1 only)</td>
<td>$ 200.00</td>
<td>Student Government Fee $ 100.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Activity Fee</td>
<td>$ 200.00</td>
<td>*All mandatory fees due in the fall 2016</td>
<td>COA-Cost of Attendance</td>
<td></td>
</tr>
</tbody>
</table>
Cancellation and Refund Policy:
Withdrawal is defined as the dropping of one’s entire program in a given term as differentiated from dropping some, but not all, of one’s courses. Refunds will be made within 30 days. Application fees, late fees, and research fees are not refundable.

REFUND SCHEDULE

| Weeks 1&2 - prior to assessment Friday | 100% tuition and fees |
| Weeks 3&4 - prior to assessment Friday | 75% tuition refunded |
| Weeks 5&6 - prior to assessment Friday | 50% tuition refunded |
| Weeks 7&8 - prior to assessment Friday | 25% tuition refunded |
| Week 9 | 0% tuition refunded |

Designated Office to Contact for Withdrawal - The student must follow the Withdrawal Procedure as outlined in the Student Handbook. Students must first contact the Assistant/Associate Dean of Student Affairs and then the Assistant/Associate Dean of Academic Affairs & Assessment. The student must also meet with the Associate Director of Financial Services to determine any financial liability created by withdrawal prior to the end of the term.

FINANCIAL SERVICES

Federal Student Aid
At this time, Larkin University does not offer Federal Student Aid.

Private Education Loans
Larkin University offers private student loans through Sallie Mae and iHelp. Private Loans are applied for on an annual basis, at the beginning of the academic year. Private Education Loans are based on the creditworthiness of the borrower. You can increase your chances of getting approved and receiving a lower interest rate by applying with a credit worthy co-borrower. Borrowers and co-borrowers may be required to meet debt-to-income ratio criteria. Repayment begins after graduation or after a student falls below less than half time or student’s last date of attendance, whichever comes first. Private Loan interest rates are variable.

Understanding your rights and responsibilities is extremely important when considering Private Loans. Choose the loan that’s most suitable for you by considering each lender’s terms and conditions. Borrow only what is needed and what you can reasonably repay. The loan amount cannot exceed the cost of attendance. Application can be completed online through each lender’s website. Upon approval, the lender will notify LHSI electronically.

iHelp Student Loans
Sallie Mae
Sallie Mae Smart Option Student Loan® for Regions Bank Customers
Grow Financial

Scholarships
The Office of Student Affairs and Admission (OSAA) has compiled a list of scholarship resources that are offered outside of LHSI. You can find a full list of scholarships on our website. Browse each link to determine eligibility requirements and application deadlines. Students can conduct additional scholarship search on their own. If a student is awarded a scholarship, it is the student’s responsibility to provide the Office of Financial Services the necessary information to be awarded accordingly.
DOCTOR OF PHARMACY DEGREE

Program Objective
To develop an academic community engaged in teaching, research, scholarship and service that prepares pharmacists for compassionate, evidence-based and interprofessional practice in diverse settings.

Program Description
The curriculum will be offered via a three-year block program. Although the curriculum will be offered in a time shorter than 4-calendar years, it is estimated the actual program will have approximately 25-30% more contact time than a traditional 4-year program. Students will spend approximately 6 hours most weekdays in educational settings. This will allow for didactic and laboratory experiences to include a large proportion of time for student group learning, formative and summative assessments. There will be daily assessment tools to determine formative outcomes and every other week there will be a summative assessment of the material from the block. There will also be end of semester summative assessments (ESAs). These will be considered a moderate stakes assessment. All students must achieve a 100% pass rate in order to move the next semester. Since achieving a 100% during the actual in-class assessment is highly unlikely, during the Extended Learning (EL) session for remediation and/or during the break in between semesters, students will complete a written summary of all questions that were not answered correctly. In this summary, they will describe why the correct answer is correct and why the answer they chose is incorrect. These will be turned in and reviewed for completion prior to progression to the next semester.

A typical two-week block is shown in the table below:

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Reassessment from previous block if necessary</td>
<td>Didactic and active learning</td>
<td>Didactic and active learning</td>
<td>Didactic and active learning</td>
<td>Didactic and active learning</td>
</tr>
<tr>
<td>Week 2</td>
<td>Didactic and active learning</td>
<td>Didactic and active learning</td>
<td>Longitudinal Course using topic of block for reinforcement</td>
<td>Case based or laboratory learning day using IPE when applicable</td>
<td>Summative Block Assessment (individual and group) with detail review following assessment completion</td>
</tr>
</tbody>
</table>

IPE = Interprofessional education

Introductory Pharmacy Practice Experience (IPPE) will be a total of 320 hours of education over two sessions (160 hours each) and Advanced Pharmacy Practice Experience (APPE) will be seven six-week rotations for a total of 42 weeks or 1680 hours.
Basic and skills based laboratories will complement didactic in-class activities where applicable.

During the assessment day, each individual will complete the assessment on his or her own. Immediately following, the group they are assigned to will work together to take the same assessment. If the group scores 95% or better, each individual in that group will receive 5 percent added to their individual score. However, that will only occur if the individual achieved 80 percent or greater on the individual assessment. If they did not achieve individual competency, they will not be eligible to receive the 5%. The grading scale is competency based with competency defined as 80%. All scores below 80% are considered failing grades.

PROGRAM LEARNING OUTCOMES

1. Foundational Knowledge
The professional program leading to the Doctor of Pharmacy degree (hereinafter “the program”) develops in the graduate the knowledge, skills, abilities, behaviors, and attitudes necessary to apply the foundational sciences to the provision of patient-centered care.

   Key Element:
   1.1 Foundational knowledge – The graduate is able to develop, integrate, and apply knowledge from the foundational sciences (i.e., biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences) to evaluate the scientific literature, explain drug action, solve therapeutic problems, and advance population health and patient-centered care.

2. Essentials for Practice and Care
The program imparts to the graduate the knowledge, skills, abilities, behaviors, and attitudes necessary to provide patient-centered care, manage medication use systems, promote health and wellness, and describe the influence of population-based care on patient-centered care.

   Key Elements:
   2.1 Patient-centered care – The graduate is able to provide patient-centered care as the medication expert (collect and interpret evidence, prioritize, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities).

   2.2 Medication use systems management – The graduate is able to manage patient healthcare needs using human, financial, technological, and physical resources to optimize the safety and efficacy of medication use systems.

   2.3 Health and wellness – The graduate is able to design prevention, intervention, an educational strategies for individuals and communities to manage chronic disease and improve health and wellness.

   2.4 Population-based care – The graduate is able to describe how population-based care influences patient-centered care and the development of practice guidelines and evidence-based best practices.
3. Approach to Practice and Care
The program imparts to the graduate the knowledge, skills, abilities, behaviors, and attitudes necessary to solve problems; educate, advocate, and collaborate, working with a broad range of people; recognize social determinants of health; and effectively communicate verbally and nonverbally.

Key Elements:
1.1 Problem solving – The graduate is able to identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution.

3.2 Education – The graduate is able to educate all audiences by determining the most effective and enduring ways to impart information and assess learning.

3.3 Patient advocacy – The graduate is able to represent the patient’s best interests.

3.4 Interprofessional collaboration – The graduate is able to actively participate and engage as a healthcare team member by demonstrating mutual respect, understanding, and values to meet patient care needs.

3.5 Cultural sensitivity – The graduate is able to recognize social determinants of health to diminish disparities and inequities in access to quality care.

3.6 Communication – The graduate is able to effectively communicate verbally and nonverbally when interacting with individuals, groups, and organizations.

4. Personal and Professional Development
The program imparts to the graduate the knowledge, skills, abilities, behaviors, and attitudes necessary to demonstrate self-awareness, leadership, innovation and entrepreneurship, and professionalism.

Key Elements:
4.1 Self-awareness – The graduate is able to examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.

4.2 Leadership – The graduate is able to demonstrate responsibility for creating and achieving shared goals, regardless of position.

4.3 Innovation and entrepreneurship – The graduate is able to engage in innovative activities by using creative thinking to envision better ways of accomplishing professional goals.

4.4 Professionalism – The graduate is able to exhibit behaviors and values that are consistent with the trust given to the profession by patients, other healthcare providers, and society.

* Adapted from the American Association Pharmacy’s Center for the Advancement of Pharmacy Education (CAPE) Educational Outcomes, 2013.
Application Procedures

Admission requirements
- Completion of prerequisite coursework with a preferred 2.7 overall GPA on a 4.0 scale
- Pharmacy Admission Test (PCAT), preferred score of 50th percentile composite
- Two letters of recommendation
- Personal statement
- If selected, an on-site interview
- Criminal background check and drug screening
- Completed online application

Pre-Requisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Biology I and II (with lab)</td>
<td>8</td>
</tr>
<tr>
<td>Anatomy and Physiology</td>
<td>6</td>
</tr>
<tr>
<td>General Chemistry (with lab)</td>
<td>8</td>
</tr>
<tr>
<td>Organic Chemistry (with lab)</td>
<td>8</td>
</tr>
<tr>
<td>General Physics</td>
<td>3</td>
</tr>
<tr>
<td>Calculus</td>
<td>3</td>
</tr>
<tr>
<td>Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Speech/Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>Advanced Sciences</td>
<td>6</td>
</tr>
<tr>
<td>Such as: Cellular or molecular biology,</td>
<td></td>
</tr>
<tr>
<td>Microbiology, biochemistry, or genetics</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>3</td>
</tr>
<tr>
<td>Humanities or Social/Behavioral Sciences</td>
<td>3</td>
</tr>
<tr>
<td>Psychology</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL HOURS</strong></td>
<td><strong>63</strong></td>
</tr>
</tbody>
</table>

*Only completion of courses with a grade of C or better will be accepted. Any course in which the student received a D must be retaken.*

Procedure

The procedure for applying for admission to Larkin University Department of Pharmacy’s Doctor of Pharmacy program is as follows;
1. Complete the application through PharmCAS and indicate that your application should be sent to Larkin University department of Pharmacy
2. Submit official PCAT scores PharmCAS. We will accept PCAT scores up to three (3) years old.

The Admissions Committee will review completed applications on a regular basis, at least monthly. The initial review of completed applications will be to determine whether to invite the applicant for an on-campus interview.
1. The initial review decision will be communicated to the applicant by email within five (5) business days of the Admissions Committee meeting.
2. Applicants invited for interview must accept or decline the request within two weeks (14 calendar days) of notification of the decision.

Post-interview, the Admissions Committee will review the full application and interview ratings for each applicant to determine whether to offer admission to the Doctor of Pharmacy program.

1. The applicant will be notified of the committee’s decision within seven (7) business days following the Admissions Committee meeting.

2. Applicants will have two weeks (14 calendar days) to accept the offer of admission and place a $500 deposit, which is non-refundable and applied to tuition in the first semester.

Schedule of Application and Admissions Cycle

<table>
<thead>
<tr>
<th>Month</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>July</td>
<td>PharmCAS opens</td>
</tr>
<tr>
<td>August</td>
<td>Admissions Committee begins initial review of applications for Early Decision</td>
</tr>
<tr>
<td></td>
<td>Admissions Committee begins inviting applicants for interview for Early Decision</td>
</tr>
<tr>
<td>October</td>
<td>Early Decision applicants begin to be notified of decision</td>
</tr>
<tr>
<td>November</td>
<td>Regular decision applicants begin to be invited for interview</td>
</tr>
<tr>
<td></td>
<td>Admissions Committee begins review for admissions decisions</td>
</tr>
<tr>
<td>March 1</td>
<td>PharmCAS deadline to complete application</td>
</tr>
<tr>
<td>June 30</td>
<td>Pre-requisites must be completed</td>
</tr>
<tr>
<td>August 1</td>
<td>Final transcripts due to Office of Admissions</td>
</tr>
<tr>
<td>August 8</td>
<td>Orientation Week</td>
</tr>
<tr>
<td>August 15</td>
<td>First day of class</td>
</tr>
</tbody>
</table>
Advisement

The advising philosophy of the Pharmacy (COP) centers on the development of structured relationships that allow students the opportunity to explore their academic, personal and career interests through holistic support and mentoring toward the goal of a successful career in pharmacy. The supplementary advising model provides a shared structure defined by an assigned primary faculty advisor, professional student affairs staff, as well as the student and advisor selection of mentors from within the faculty. Students are encouraged to develop relationships with multiple faculty members, particularly those who share career or practice interests. Opportunities for exposure to faculty will be accomplished through courses, faculty advising of student organizations, experiential experiences, co-curricular activities and involvement in research.

The goals of the advising relationship are to:

- Teach students how to assess their educational, career, and personal choices.
- Guide students toward information and resources relevant to their needs, and to help them understand how to search for this information independently.
- Help students learn effective decision making, critical thinking, and problem solving which are skills needed in order to be successful in their careers.
- Mentor students to understand their growth and learning through their educational experiences, and how to apply that understanding toward the expectation of life-long learning.

Advisor training will be provided to the faculty by the OSAA prior to assignment of advisees.
Grading System

All students must attain at least 80% competency on their individual summative assessment for each block course. Students unable to attain 80% competency on the end-of-block assessment will be offered an opportunity for reassessment on the following Monday. Students will also complete the same end-of-block summative assessment in their assigned learning group assessment on Friday immediately following the individual assessments. Groups scoring > 95% on the group assessment will be eligible for five additional points on their individual scores. To be eligible for the group bonus, individuals MUST attain 80% or higher on their individual assessment. Students are NOT eligible for these points to be added to their score on the reassessment.

In longitudinal courses, students must attain at least 80% competency on the comprehensive assessment to pass the course. For students that are unable to meet an 80% competency, the course instructor will define the process for reassessment and remediation, if necessary.

All experiential courses require a final evaluation of 80% or greater. Further details will be provided in the introductory and advanced pharmacy practice experiences manuals.

Final grades in all courses will be assigned as follows:

- A: > 90%
- B: 80 – 89%
- F: <80%

Definition of a Unit

- A didactic course, composed of 42 hours, is equivalent to 2.5 credit hours.
- An experiential course credit hour is equivalent to 40 hours per week x 4 weeks and is assigned 4 credits (introductory pharmacy practice experiences)
- An experiential course credit hour is equivalent to 40 hours per week x 6 weeks and is assigned 6 credits (advanced pharmacy practice experiences)
Academic Standing

To be in good academic standing in Pharmacy (COP) a student must not be on academic probation or be subject to academic dismissal.

A student is considered to be “not in good academic standing” when any one of the following apply:

1. The student is on academic probation;
2. The student withdraws while on academic probation;
3. The student is subject to a required LOA, suspension or academic dismissal. The latter can occur due to any one of the following circumstances:
   a. The student did not attain competency on three reassessments;
   b. The student did not attain competency on two remediation assessments;
   c. The student did not attain competency on one introductory pharmacy practice experience (IPPE);
   d. The student did not attain competency on three advanced pharmacy practice experiences (APPE);
   e. The student did not attain competency upon remediation of any one APPE.

Probation, Required Leave of Absence, Suspension and Dismissal

The SPPC may recommend changing a student’s academic standing as a result of not meeting the COP academic or professional requirements (see Code of Conduct and Technical Standards). All recommended changes in academic standing are recommended by the SPPC to the Assistant/Associate Dean for Academic Affairs and Curricular Assessment (ADAACA) and must be approved by the ADAACA for the change to be effective.

Probation

A student placed on probation is considered at risk of not completing the program. The student’s progress will be monitored by the student’s faculty advisor and the Associate Dean for Academic Affairs and Curricular Assessment (ADAACA). Additional actions may be required to increase the probability of the student’s success.

Required Leave of Absence

While a student may request a Leave of Absence (LOA), the SPPC may recommend to the ADAACA that a student be required to take an LOA if, in the judgment of the SPPC, the circumstances warrant such leave.

Suspension

The SPPC may recommend to the ADAACA that a student be suspended for academic or disciplinary reasons. The SPPC may also recommend additional academic, professional or other services (e.g. counseling) to be completed as a requirement of re-entry into the program. The ADAACA and the Associate Dean for Student Affairs and Admissions (ADSAA) will meet with the student to inform the student of the suspension verbally. Any requirements to be met before re-entry into the program, as well as the procedures for re-entry, will be described verbally at this meeting. Additionally, the notice of suspension, requirements for re-entry and procedures for re-entry will be provided in writing to the student.
Re-entry following suspension or dismissal
A student who was suspended from the program may request re-entry to the program provided there is at least a one year period between the start of the semester in which the student was suspended and the start of the semester to which re-entry is sought. The student must submit a letter requesting re-entry after suspension. This letter must reference the letter from the ADAACA which initiated the suspension (provide date of letter) and any other supporting documentation that details that the student has completed with the requirements for re-entry into the program (e.g., psychological services/evaluation or academic support). The letter and documents should be received by the ADSAA at least 30 days before the date the student wishes to re-enter the program. A student who has been dismissed from the program must re-apply through the designated Admissions processes to be considered for re-admission.

Graduation Requirements
The following are the requirements for graduation with a Doctor of Pharmacy degree from the Larkin University department of Pharmacy (COP):

1. Completion of pre-pharmacy course requirements (63 credit hours) as described in the Admission Requirements.
2. Completion of all Doctor of Pharmacy courses, including didactic courses, elective courses, and introductory and advanced pharmacy practice experiences (IPPEs and APPEs), as described in the curriculum (141 credit hours).
3. Successfully complete an End-of-Semester comprehensive assessment at the end of each semester.
4. Completion of required co-curricular components of the program.
5. Completion of an electronic portfolio deemed acceptable by the COP faculty.
6. Demonstrate competency in the required knowledge and skills prior to starting APPEs.
7. Meet the technical standards of the COP which include requirements for maintaining professionalism, mental and emotional health, and ethical standards in didactic and experiential settings.
8. Pay all fees and financial obligations to LHSI.
9. Complete the requirements of the Doctor of Pharmacy degree within 5 years of initial enrollment.
10. In keeping with pharmacy tradition, be recommended for the degree by the faculty of the COP.

Student Organizations
The department of Pharmacy (COP) encourages students to become involved with professional and social student organizations as a means of developing leadership skills and professional networking opportunities. Student participation in local and national professional organizations is highly encouraged and the COP provides support for students to participate at the local, state and national level by linking students to these organizations and providing the following guidelines. Opportunities for involvement are introduced to incoming students during Orientation each year.

The COP will support student-driven establishment of chapters of nationally recognized pharmacy student organizations, community service organizations, and special interest or social organizations. In addition to participation in student organizations, students will be required to attend one Florida Board of Pharmacy meeting during their didactic coursework, to participate in volunteer and community service activities and to take advantage of special events and speakers on campus.
# Course of Study

## Curriculum Outline

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td><strong>Year 1 Fall Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH 501</td>
<td>Introduction to Pharmacy</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 502</td>
<td>Medical Biochemistry</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 503</td>
<td>Molecular Biology and Genetics</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 504</td>
<td>Pharmaceutics I with extemporaneous compounding</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 505</td>
<td>Ethics and Law</td>
<td>2.5</td>
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<tr>
<td>PH 506</td>
<td>Pharmaceutics II with Aseptic Techniques</td>
<td>2.5</td>
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<tr>
<td>PH 507</td>
<td>Medicinal Chemistry, Pharmacology and Toxicology I</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 508</td>
<td>Nonprescription Medicine and Self Limiting Diseases</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 509</td>
<td>Pharmacy Practice and Interprofessional and Patient Communications</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>(Longitudinal)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>End of Semester Assessment/Extended Learning</td>
<td>No Credit</td>
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</table>

| **Year 1 Spring Semester**                                                                 |
| PH 510        | IPPE I Community                                                            | 8 (4 + 4)    |
| PH 511        | IPPE II Hospital                                                            |              |
| PH 512        | Biopharmaceutics and Pharmacokinetics                                       | 2.5          |
| PH 513        | Medicinal Chemistry, Pharmacology and Toxicology II                         | 2.5          |
| PH 514        | Respiratory Disorders                                                       | 2.5          |
| PH 515        | Endocrine and Metabolic Disorders                                           | 2.5          |
| PH 516        | Research Methodology and Literature Evaluation I (Longitudinal)             | 2.5          |
|               | End of Semester Assessment/Extended Learning                               | No Credit    |

| **Year 1 Summer Semester**                                                                 |
| PH 517        | Bone and Joint Disorders, Dermatology, EENT                                 | 2.5          |
| PH 518        | Men’s and Women’s Health (Gynecological, Obstetric, Urologic Disorders)     | 2.5          |
| PH 519        | Renal Disorders                                                             | 2.5          |
| PH 520        | Cardiovascular Disorders I                                                  | 2.5          |
| PH 521        | Practice Management and Informatics                                         | 1.0          |
|               | End of Semester Assessment/Extended Learning                               | No Credit    |

| **Year 2 Fall Semester**                                                                 |

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PH 601</td>
<td>Cardiovascular Disorders II</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 602</td>
<td>Cardiovascular Disorders III</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 603</td>
<td>Neurologic and Psychiatric Disorders I</td>
<td>2.5</td>
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<tr>
<td>PH 604</td>
<td>Neurologic and Psychiatric Disorders II</td>
<td>2.5</td>
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<tr>
<td>PH 605</td>
<td>Neurologic and Psychiatric Disorders III</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 606</td>
<td>Hematologic and Oncologic Disorders I</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 607</td>
<td>Hematologic and Oncologic Disorders II</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 608</td>
<td>Gastrointestinal Disorders</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 609</td>
<td>Pharmacoeconomics, Pharmacoepidemiology, Policies and Outcomes (Longitudinal)</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>End of Semester Assessment/Extended Learning</td>
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**Year 2 Spring Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PH 610</td>
<td>Nutrition and Nutritional Disorders</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 611</td>
<td>Microbiology, Immunology and Infectious Origin Disorders I</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 612</td>
<td>Infectious Origin Disorders II</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 613</td>
<td>Infectious Origin Disorders III</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 614</td>
<td>Infectious Origin Disorders IV and APhA Immunization Training Module</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 615</td>
<td>Treatment of Special Populations and Critical Care</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 616</td>
<td>Elective I</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 617</td>
<td>Elective II</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 618</td>
<td>Literature Evaluation II and Doctoral Seminar (Including poster presentation) (Longitudinal)</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>End of Semester Assessment/Extended Learning</td>
<td>No Credit</td>
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</table>

**Year 3 Summer, Fall, and Spring Semester**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH 701</td>
<td>APPE – Ambulatory Patient Care</td>
<td>6</td>
</tr>
<tr>
<td>PH 702</td>
<td>APPE – General Medicine Patient Care</td>
<td>6</td>
</tr>
<tr>
<td>PH 703</td>
<td>APPE – Hospital/Health Systems Pharmacy</td>
<td>6</td>
</tr>
<tr>
<td>PH 704</td>
<td>APPE – Community Practice</td>
<td>6</td>
</tr>
<tr>
<td>PH 705</td>
<td>APPE – Patient Care Elective I</td>
<td>6</td>
</tr>
<tr>
<td>PH 706</td>
<td>APPE – Patient Care Elective II</td>
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</tr>
<tr>
<td>PH 707</td>
<td>APPE – Elective</td>
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<tr>
<td>PH 708</td>
<td>NAPLEX Preparation and Review Block</td>
<td>NC</td>
</tr>
<tr>
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<td>TOTAL:</td>
<td>141</td>
</tr>
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</table>
Course Descriptions

PH 501 Introduction to Pharmacy (2.5)
This course provides an introduction to the practice of pharmacy and the role of the profession in the US healthcare system. The course will introduce students to the concepts of pharmaceutical care and interprofessional practice. As pharmaceutical calculations are an important facet to delivery medication therapy management services, students will also be introduced to a variety of foundational mathematical concepts necessary to facilitate proper patient care. An overview of the information systems and technology at LHSL will also be provided during this course. After this course, students should be able to understand and describe the philosophical foundations and values of pharmacy practice as well as their own relationship to patients and the healthcare system.

PH 502 Medical Biochemistry (2.5)
This course addresses chemistry of biomacromolecules, enzymology and enzyme kinetics, metabolic pathways, nucleic acid metabolism and protein synthesis. This course also introduces bioanalysis and clinical chemistry.

PH 503 Molecular Biology and Genetics (2.5)
This course teaches the principles of basic molecular biology, genetics and biochemical basis of human diseases.

PH 504 Pharmaceutics I with extemporaneous compounding (2.5)
This course provides students an introduction to the practice of pharmacy. It will equip the student with the basic knowledge of theory and principles applicable to functioning in the pharmacy dispensary, with skill sets such as formulating, designing, compounding, and evaluating dosage forms and drug delivery systems. Pharmacy calculations required for compounding and appropriate patient dosing will be examined. The course also introduces the concepts of good manufacturing practice (GMP), quality control, stability, and drug standards including identification of compendia and compendial standards. Students will learn the art of medication compounding in a laboratory setting.

PH 505 Ethics and Law (2.5)
This course will build upon foundational concepts provided in PH 501, Introduction to Pharmacy. Students will be exposed to concepts surrounding the role ethics play in professional practice, with a focus on the application of ethics in pharmaceutical care. Students will also be introduced to health care laws that impact pharmacy at both the state and federal level.

PH 506 Pharmaceutics II with Aseptic Technique (2.5)
This course deals with advanced dosage forms for specialized drug delivery, and how sterile dosage forms (e.g. injections and eye drops) are made. The drug sterile admixture techniques are explained including: United States Pharmacopoeia Chapter 797 (USP 797), stability and sterility testing and dating, clean room requirements and infusion devices and catheters.
PH 507 Medicinal Chemistry, Pharmacology/Toxicology I (2.5)
This course aims to introduce basic principles and functional aspects which govern the actions of drugs, such as pH, pKa, solubility, and % ionization and how specific modifications of drug structure alter the activity of the drug. The students will be able to understand the process of drug metabolism and various metabolic pathways, and how the modification of the structure changes the metabolic pathways of the drugs. Moreover, students should gain an in-depth understanding of dose response curves, including quantitative aspects of drug-receptor interactions. Students will become aware of chemical and physiological factors which affect drug absorption, distribution, metabolism and excretion.

PH 508 Nonprescription Medicine and Self Limiting Diseases (2.5)
This course will introduce students to concepts surrounding the assessment of patients with self-limiting diseases and discuss the utility of nonprescription medications in this patient population. The course will include case based clinical paradigms and inter-professional aspects necessary for pharmacists to provide pharmaceutical care that is appropriate for this specific patient population.

PH 509 Pharmacy Practice and Interprofessional and Patient Communications (2.5)
This course will introduce students to communication and leadership approaches and strategies necessary to facilitate interactions between pharmacists, patients and other members of the healthcare team. The course will involve simulation experiences that will expose students to clinical scenarios that occur in daily professional practice.

PH 510 INTRODUCTION TO PHARMACY PRACTICE EXPERIENCES I Community (4)
Introductory Pharmacy Practice Experience orientation will provide basic knowledge of the drug distribution process in a community pharmacy as well as review course requirements and professional behavior. Learners will apply learned didactic information gained during coursework and orientation to real-world, off-campus community pharmacist activities, assignments, and reflections. Experiences will allow learners to enhance their knowledge of the profession and develop their professional maturity and communication skills. Successful completion of IPPEs is required for progression through the scheduled curriculum and leads towards the next phase of experiential education, advance pharmacy practice experience (APPE).

PH 511 INTRODUCTION TO PHARMACY PRACTICE EXPERIENCES II Health Systems (4)
Introductory Pharmacy Practice Experience orientation will provide basic knowledge of the drug distribution process in an institutional/health systems pharmacy as well as review course requirements and professional behavior. Learners will apply learned didactic information gained during coursework and orientation to real-world, off-campus institutional/health systems pharmacist activities, assignments, and reflections. Experiences will allow learners to enhance their knowledge of the profession and develop their professional maturity and communication skills. Successful completion of IPPEs is required for progression through the scheduled curriculum and leads towards the next phase of experiential education, advance pharmacy practice experience (APPE).

PH 512 Biopharmaceutics and Pharmacokinetics (2.5)
This course is an introduction to basic principles of in vivo drug kinetics (linear and nonlinear) including: principles of bioavailability/bioequivalence, physiologic determinates of drug onset and duration, what our body does to a drug (absorption, distribution, metabolism and excretion), dietary influences on absorption, distribution, metabolism, and excretion as well as the pharmacokinetic-pharmacodynamic interface.
PH 513 Medicinal Chemistry, Pharmacology and Toxicology II (2.5)
This course aims to cover mechanism of action of drugs in various categories and role of pharmacology in selecting right drug for the right disease. Moreover, students should gain an in depth understanding of toxicity and various drug-drug interactions in the case of multiple drug therapy and how enzyme induction and inhibition can play a role in the absorption, distribution, and excretion of a drug molecule.

PH 514 Respiratory Disorders (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for respiratory disorders. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving respiratory disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for respiratory disorders to patient care.

PH 515 Endocrine and Metabolic Disorders (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for endocrine and metabolic disorders. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving endocrine and metabolic disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for endocrine and metabolic disorders to patient care.

PH 516 Research Methodology and Literature Evaluation (2.5)
This course is designed to educate students about scientific research and literature evaluation. We will start with an overview of the scientific method. The course will then discuss how to identify a researchable topic and how to progress through each stage of conducting a research project. In this course, the students will learn techniques of literature search and literature review and identify the existing gap in our knowledge.

PH 517 Bone and Joint Disorders, Dermatology and EENT (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for bone and joint; dermatology; and eye, ears, nose and throat (EENT) disorders. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving bone and joint, dermatology, and EENT disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for bone and joint, dermatology, and EENT disorders to patient care.
PH 518 Men's and Women's Health (Gynecological, Obstetric and Urologic Disorders) (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for disorders related to men’s and women’s health (i.e. gynecological, obstetrical, urological disorders). This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving disorders related to men’s and women’s health. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for disorders related to men’s and women’s health.

PH 519 Renal Disorders (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for renal disorders. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving renal disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for renal disorders.

PH 520 Cardiovascular I (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for cardiovascular disorders. This is the first of a series of three cardiovascular courses. This course will focus on hypertension, dyslipidemia, ischemic heart disease, and peripheral arterial disease. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific cardiovascular disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for hypertension, dyslipidemia, ischemic heart disease, and peripheral arterial disease.

PH 521 Pharmacy Management and Informatics (1)
This course will expose students to the necessary skills required for pharmacists to effectively manage staff and resources in a variety of common pharmacy practice settings (e.g. ambulatory practice, community practice and health-system practice settings). Students will be exposed to concepts related to the management and utilization of information systems in pharmacy practice.

PH 601 Cardiovascular II (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for cardiovascular disorders. This is the second of a series of three cardiovascular courses. This course will focus on arrhythmias, venous thrombembolism, Acute Coronary Syndromes, cardiac arrest, acid-base disorders, and shock. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific cardiovascular disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for arrhythmias, venous thrombembolism, Acute Coronary Syndromes, cardiac arrest, acid-base disorders, and shock.
PH 602 Cardiovascular III (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for cardiovascular disorders. This is the third of a series of three cardiovascular courses. This course will focus on stroke, acute decompensated heart failure, chronic heart failure, and advanced cardiac life support (ACLS). This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific cardiovascular disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for stroke, acute decompensated heart failure, chronic heart failure, and advanced cardiac life support (ACLS).

PH 603 Neurologic and Psychiatric Disorders I (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for neurological and psychiatric disorders. This is the first of a series of three neurological and psychiatric courses. This course will focus on Alzheimer’s Disease, epilepsy, status epilepticus, multiple sclerosis, and Parkinson’s Disease. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific neurological and psychiatric disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for Alzheimer’s Disease, epilepsy, status epilepticus, multiple sclerosis, and Parkinson’s Disease.

PH 604 Neurologic and Psychiatric Disorders II (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for neurological and psychiatric disorders. This is the second of a series of three neurological and psychiatric courses. This course will focus on ADHD, anxiety disorders, bipolar disorder, depression, sleeping disorders, and schizophrenia. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific neurological and psychiatric disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for ADHD, anxiety disorders, bipolar disorder, depression, sleeping disorders, and schizophrenia.

PH 605 Neurologic and Psychiatric Disorders III (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for neurological and psychiatric disorders. This is the third of a series of three neurological and psychiatric courses. This course will focus on acute pain, chronic malignant pain, chronic non-malignant pain, headache disorders, and substance abuse. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific neurological and psychiatric disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for acute pain, chronic malignant pain, chronic non-malignant pain, headache disorders, and substance abuse.
PH 606 Hematologic and Oncologic Disorders I (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for hematologic and oncologic disorders. This is the first of a series of two hematologic and oncologic courses. This course will introduce the principles of cancer treatment and chemotherapy. Specific areas of focus will include anemia, coagulation disorders, sickle cell disease, leukemia, lymphoma, and multiple myeloma. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific hematologic and oncologic disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for anemia, coagulation disorders, sickle cell disease, leukemia, lymphoma, and multiple myeloma.

PH 607 Hematologic and Oncologic Disorders II (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for hematologic and oncologic disorders. This is the second in a series of two hematologic and oncologic courses. Specific areas of focus will include breast cancer, lung cancer, colorectal cancer, melanoma, ovarian cancer, prostate cancer, renal cell carcinoma, and oncologic emergencies. This course will also introduce the concepts of palliative and supportive care within the framework of the various malignancies. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific hematologic and oncologic disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for breast cancer, lung cancer, colorectal cancer, melanoma, ovarian cancer, prostate cancer, renal cell carcinoma, and oncologic emergencies.

PH 608 Gastrointestinal Disorders (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for gastrointestinal disorders. This course will focus on constipation, diarrhea, irritable bowel disease, Crohn’s disease, gastroesophageal reflux disorder (GERD), peptic ulcer disease (PUD), nausea and vomiting, pancreatitis, cirrhosis, and hepatitis. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific gastrointestinal disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics for constipation, diarrhea, irritable bowel disease, Crohn’s disease, GERD, PUD, nausea and vomiting, pancreatitis, cirrhosis, and hepatitis.

PH 609 Pharmacoeconomics, Pharmacoepidemiology, Policy and Outcomes (2.5)
This course will provide students with a framework for understanding the impact of pharmacotherapy on various components of society. This will include course work that addresses the financial impact medication therapy has on both micro and macro environments. The impact medication use has on disease prevention and progression will be explored, as well as the health outcomes (i.e. economic, clinical and humanistic) that are associated with pharmacotherapy.
PH 610 Nutrition and Nutritional Disorders (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for nutrition and nutritional disorders. This course will focus on assessment of nutritional status and the provision of nutritional requirement. Areas of focus will include enteral nutrition, parenteral nutrition, eating disorders, and obesity. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific nutrition and nutritional disorders. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics related to enteral nutrition, parenteral nutrition, eating disorders, and obesity.

PH 611 Microbiology, Immunology and Infectious Origin Disorders I (2.5)
This course is the first of four courses that will integrate medicinal chemistry and pharmacology concepts with application of pharmacotherapy for patients with disease states that are of an infectious disease nature. The course will provide an overview of microbiology and immunology concepts that will become incorporated into the balance of the infectious disease course sequence. The course will include case based clinical paradigms and inter-professional aspects to the provision of pharmaceutical care that is patient focused and inclusive of concepts related to population based healthcare.

PH 612 Infectious Origin Disorders II (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for infectious diseases. This is the second in a series of four courses dealing with infectious origin disorders. Areas of focus will include bone and joint infections, skin and soft tissue infections, CNS infections, respiratory infections, urinary tract infections, prostatitis, sexually transmitted diseases, superficial fungal infections, and cystic fibrosis. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific infectious diseases. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics related to bone and joint infections, skin and soft tissue infections, CNS infections, respiratory infections, urinary tract infections, prostatitis, sexually transmitted diseases, superficial fungal infections, and cystic fibrosis.

PH 613 Infectious Origin Disorders III (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for infectious diseases. This is the third in a series of four courses dealing with infectious origin disorders. Areas of focus will include sepsis, septic shock, intra-abdominal infections, gastrointestinal and enterotoxic infections, infective endocarditis, invasive fungal infections, parasitic infections and antimicrobial prophylaxis. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific infectious diseases. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics related to sepsis, septic shock, intra-abdominal infections, gastrointestinal and enterotoxic infections, infective endocarditis, invasive fungal infections, parasitic infections and antimicrobial prophylaxis.
PH 614 Infectious Origin Disorders and APhA Immunization Training Module (2.5)
This is an integrated course designed to introduce students to the principles of pharmacotherapy for infectious diseases. This is the fourth in a series of four courses dealing with infectious origin disorders. Areas of focus will include HIV, immunocompromised patients, vaccines, toxoids, and immunobiologics. In addition this course will include completion of the APhA Immunization Certificate training program. This course will integrate the study of anatomy, medicinal chemistry, pathophysiology, pharmacology, pharmacotherapy, clinical pharmacokinetics/pharmacodynamics, physical assessment, patient care, alternative/complimentary therapies, pharmacoeconomic issues, medication use in special populations, and a review of related drug literature involving specific infectious diseases. Class format will consist of lecture, case studies, group assignments, and group discussion. The goal is to facilitate the application of pharmacotherapy topics related to HIV, immunocompromised patients, the use of vaccines, toxoids, and immunobiologics.

PH 615 Treatment of Special Populations and Critical Care (2.5)
This course will integrate medicinal chemistry and pharmacology concepts with application of pharmacotherapy for patient populations that include geriatrics, pediatrics, palliative care and those that are critically ill. The course will include case based clinical paradigms and inter-professional aspects to the provision of pharmaceutical care that is patient focused and inclusive of concepts related to population based healthcare.

PH 616 Elective I & PH 617 Elective II (2.5)
Electives will be offered in multiple subject areas that will focus on one of the following aspects of the pharmacy profession: Pharmaceutical Sciences, Clinical Sciences, Administrative Sciences or Socio-behavioral Sciences. This may include research in one of the above named areas.

PH 618 Advanced Literature Evaluation and Doctoral Seminar (2.5)
This capstone course will conclude the didactic curriculum and provide students with an opportunity to prepare a manuscript and present a seminar on a topic that utilizes skills learned throughout the curriculum. This course will allow students to integrate the necessary knowledge and skills to transition into the advanced pharmacy practice experiences.

ADVANCED PHARMACY PRACTICE EXPERIENCERS (APPE)
Seven six-week experiences designed to assist the student in applying knowledge obtained from formal coursework toward the practice of pharmacy. Experiences are required in Ambulatory Care, Acute Care, Institutional Pharmacy, and Advance Community Pharmacy. Three other experiences will be chosen as electives.

PH 701 APPE – Ambulatory Patient Care (6)
This setting provides advanced experience in the ambulatory care practice environment. Students will be provided practical opportunities to enhance their ability to function as a clinician and demonstrate understanding of common disease states, treatment options, and medication management within this outpatient practice setting. Development of skills related to communications with patients and healthcare professionals, problem-solving skills, and self-assessment skills will also be emphasized.
PH 702 APPE – General Medicine Patient Care (6)
This setting provides advanced experience in the acute care practice environment. Students will be provided practical opportunities to enhance their ability to function as a clinician and demonstrate understanding of common disease states, treatment options, and medication management within this inpatient practice setting. Development of skills related to communications with patients and healthcare professionals, problem-solving skills, and self-assessment skills will also be emphasized.

PH 703 APPE – Hospital/Health System Pharmacy (6)
This setting provides advanced experience in the institutional practice environment. Students will be provided practical opportunities to demonstrate understanding of pharmaceutical care in the inpatient setting such as pharmacy operations, drug distribution, formulary management, legal requirements, reviewing patient profiles for pharmacotherapy management, sterile product preparation, and communication with other health care professionals.

PH 704 APPE – Community Pharmacy (6)
This setting provides advanced experience in the community practice environment. Students will be provided practical opportunities to demonstrate understanding of pharmaceutical care in a community setting such as filling and dispensing functions, proper medication labeling, controlled drug procedures, prescriber communication, and patient counseling (e.g. over-the-counter medications, treatment of minor ailments, adverse side-effects, proper medication administration).

PH 705 APPE Patient Care Elective I (6)
Electives will provide opportunities for students to seek out individual interests. Specialty experiences include areas of practice such as hematology and oncology, nutrition, pain management, critical care, geriatrics, pediatrics, infectious disease. Areas of practice will vary according to preceptor and site availability.

PH 706 APPE Patient Care Elective II (6)
Electives will provide opportunities for students to seek out individual interests. Specialty experiences include areas of practice such as hematology and oncology, nutrition, pain management, critical care, geriatrics, pediatrics, infectious disease. Areas of practice will vary according to preceptor and site availability.

PH 707 APPE (6)
Elective A non-patient care elective will provide options for students to participate in areas where patient care is not the primary focus (e.g. research, academia, administration). Areas of practice will vary according to preceptor and site availability.

PH 708 NAPLEX Preparation and Review (No Credit)
During this six weeks block students will not have any scheduled curricular projects with faculty. This is individual study for NAPLEX (North American Pharmacist Licensure Examination) review. Students will be expected to complete 50 questions per week for a total of 300 questions during the six week block on the software platform. Students may exceed this minimum number and take as many practice questions as they wish.
UNDER GRADUATE PROGRAMS

Application Procedures/Requirements
1. Submit a high school diploma or a General Education Development (GED) test score
2. Submit a complete admissions application.
3. Submit a $100 nonrefundable Application Fee.
4. Submit an updated resume.
5. Provide a copy of valid government issued ID

Schedule of Application and Admissions Cycle
The Dean is responsible for reviewing all prospective student applicant files. All applications must meet the minimum requirements set forth by the program. Those students who have met the minimum requirements of the program will be given consideration. Prospective students will be ranked in comparison to other applicants. Only those who have the highest ranking will be offered a seat in the program contingent on the number of seats available.
Associate of Science, Diagnostic Medical Sonography

Larkin University Associate of Science degree in Diagnostic Medical Sonography is an intense study of patient care theory, science and practice, combining didactic, laboratory, and clinical study and experience. The first year includes basic medical sciences, and general education courses. The second year exposes students to courses in diagnostic medical sonography and provides clinical experiences. Upon completion of the program students will be prepared to apply to take national registry exams in the specialty areas of (evaluation of abdominal organs, blood vessels, soft tissues, and other abdominal structures) and obstetrics/gynecology (female reproductive system and fetal structures).

Program Objectives

Larkin University Associate of Science Degree in Diagnostic Medical Sonography program intended student learning outcomes specifically align with the Accreditation of Allied Health Education Programs (CAAHEP) core competencies. The program defines the following as intended program objectives for students enrolled in the program:

1. Knowledgeable and competent graduates in the Science of Diagnostic Medical Sonography.
2. Graduates that are professionally and morally obligated to lifelong learning in an ever-changing field of Diagnostic Medical Sonography.
3. Demonstrate a high level of standard in patient care.
4. Effectively demonstrate core knowledge and application in their daily practice.
5. Demonstrate medical knowledge of basic medical sciences, pathophysiology and health promotion & disease prevention.
6. Effectively demonstrate interpersonal and communication skills that result in effective information exchange with patients, their families, and professional colleagues.
7. Demonstrate a high level of legal and ethical responsibility to diverse patient populations.
8. Demonstrate an awareness of and accountability for providing optimal patient care.
9. Demonstrate professional communication skills in writing through organizing, thinking critically, and communicating ideas and information in documents and presentations.

Application Procedures

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Graduate Requirements
Graduation requirements include successful completion of all courses with a 2.7 (out of 4.0) CGPA. In order to work in the field, the graduate must pass a nationally recognized certification examination and obtain a license to practice in the state of Florida.
## Course of Study

### Curriculum Outline

<table>
<thead>
<tr>
<th>Course Number</th>
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<th>Credit Hours</th>
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<tbody>
<tr>
<td>EN101</td>
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<tr>
<td>MAC105</td>
<td>College Algebra I*</td>
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<td>PHY202</td>
<td>General Physics</td>
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<td>PSY260</td>
<td>Introduction to Psychology*</td>
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<td>DMS101</td>
<td>Introduction to Diagnostic Medical Sonography</td>
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<td>SON124</td>
<td>Principles and Instrumentation of Ultrasound</td>
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<td>SON130</td>
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<td>SON140</td>
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<td>SON205L</td>
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<td>MSP288</td>
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<td>SON210</td>
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<td>DMS290</td>
<td>Clinical Practicum I</td>
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<td>SON160</td>
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<td>SON170</td>
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<td>SON180</td>
<td>Practical Aspects of Sonography I</td>
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<td><strong>Total</strong></td>
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*General Education Courses
Course Descriptions

ENC101 English Composition I* (3)
English Composition I is an introductory course in expository writing that emphasizes the importance of purpose and audience awareness in writing. While completing the work of the course, you will learn processes that will enhance the skills you need for academic and business writing.

MAC105 College Algebra I* (3)
College Algebra I is a review of linear and quadratic equations and inequalities; graphs of equations, including lines, circles, parabolas; composition, inverses of functions; transformations of graphs; linear and quadratic models; polynomials; exponentials, logarithms; counting; probability.

PHY 202 General Physics (3)
This course presents basic concepts and principles of physics, examples that demonstrate the role of physics in other disciplines are included. PHY 202 will cover the basic concepts of mechanics, such as energy, momentum, force, torque, and wave motion to solve simple mechanical problems. Other basic concepts of fluid mechanics, including pressure, density, and volume flow to solve fluid problems will be covered as well.

PSY260 Introduction to Psychology* (3)
An introductory course to the field of psychology based on the psychology of human behavior. PSY260 will cover the following topics: history of psychology, sensation and perception, development, cognition, learning and memory, motivation, emotion, personality, biological basis of behavior, psychological disorders, and therapy.

MAC210 College Algebra II* (3)
A continuation of the College Algebra I sequence, this course is designed to revisit the linear and quadratic families of functions introduced in Algebra I. Topics covered will include equations and inequalities, coordinates and graphs, general functions, Polynomial and rational functions, exponential and logarithmic functions of angles and real numbers, analytic trigonometry, systems of equations and inequalities, sequence and series.

BSC285 Anatomy and Physiology I (3)
This course will cover in a comprehensive manner, the structure and function of the human body. BSC 285 provides students with a thorough understanding of anatomy and physiology considering the following topics: body organization, the cell, tissues, membranes, glands, the Integumentary System, the Skeletal System, the Muscular System, the Nervous System, and the special senses.

BSC285L Anatomy and Physiology I Lab (1)
This is the laboratory component associated with BSC285. A survey of the structure, function, and chemistry of the human body. Topics include the cell, tissues, membranes, glands, the integumentary system, the skeletal system, the muscular system, the nervous system, and the special senses.

BSC286 Anatomy and Physiology II (3)
A continuation of the Anatomy and Physiology sequence, this course will cover in a comprehensive manner, the structure and function of the human body. BSC286 provides students with a thorough understanding of anatomy and physiology considering the following topics: the circulatory system, the respiratory system, the digestive system, the urinary system, fluid and electrolytes and the reproductive system.

BSC286L Anatomy and Physiology II Lab (1)
This is the laboratory component associated with BSC286. A survey of the structure, function, and chemistry of the human body. Topics include the circulatory system, the respiratory system, the digestive system, the urinary system, fluid and electrolytes and the reproductive system.

DMS101 Introduction to Diagnostic Medical Sonography (2)
This course is designed to introduce the basic approaches of sonographic scanning and scanning protocols. This is an introduction to the profession of Diagnostic Medical Ultrasonography that emphasizes the history of ultrasound, its medical application, the sonographer’s role, ergonomics, terminology, approaches to scanning, sonographer and patient safety, effective communication, and legal/ethical aspects of Ultrasonography.

SON124 Principles and Instrumentation of Ultrasound (3)
This course is designed to focus on the physical principles of sound waves, instrumentation, acoustic parameters, ultrasound transducers, equipment operation, and the methods of image formation and storage. SON124 comprehensively covers the essential aspects of sonography physics and technology, and provides a clear understanding of how diagnostic sonography works, including Doppler, artifacts, and safety.

SON124L Principles and Instrumentation of Ultrasound Lab (1)
This is the laboratory component associated with SON124. Physical principles of sound waves, acoustic parameters, instrumentation, ultrasound transducers, equipment operation, and the methods of image formation and storage will be covered. Practice of the skills learned in SON124 in a lab setting and through designated area hospital’s radiology departments.

SON130 Abdominal Sonography I (3)
This course will cover the anatomy and physiology of abdominal vasculature, organs, systems and structures. An introduction to the cross-sectional anatomy of the abdominal area and its recognition on sonographic visualization systems. SON130 is an in-depth study of the abdominal, retroperitoneal and superficial structures.

SON140 Obstetrics & Gynecology Sonography I (3)
This course emphasizes the study of gynecologic and obstetric/fetal anatomy and physiology. This is an in-depth study of the normal structure and function of the female reproductive system and developing fetus. The normal sonographic appearance of the obstetric/fetal anatomy will be studied.

SON150L Fundamentals of Sonography Lab I (1)
This is the laboratory component associated with the principles learned in SON130. This lab provides students the opportunity to apply didactic knowledge acquired in Abdominal Sonography I. Sonographic equipment in the lab and through designated area hospital’s radiology departments will be used in a supervised environment.
SON205L Fundamentals of Sonography Lab II (1)
This is the laboratory component associated with the principles learned in SON140. This lab provides students the opportunity to apply didactic knowledge acquired in Obstetrics & Gynecology Sonography I. Sonographic equipment in the lab and through designated area hospital’s radiology departments will be used in a supervised environment.

SON135 Small Parts Sonography (2)
This course emphasizes the study of small parts ultrasound imaging used to diagnose a variety of conditions. Some of the primary scanning areas being the salivary glands, parathyroid, thyroid, lymph node disease, joint ultrasound, tendons, scrotum and intratesticular imaging, scrotum and extratesticular imaging, hernias, breast, and more. Normal sonographic appearance of anatomy, sonographic findings and scanning protocols will be covered.

MSP286 Medical Sonography Physics I (3)
This course is designed to cover the principles of diagnostic ultrasound and the fundamental properties of ultrasonic physics, stressing tissue interactions and interfaces; ultrasound wave generation and propagation; transducers; pulse echo instruments; pulse echo imaging, image storage and display; Doppler; artifacts; quality assurance; bioeffects and safety.

MSP288 Medical Sonography Physics II (3)
This course is a continuation of the study of the principles of diagnostic ultrasound and the fundamental properties of ultrasonic physics, stressing the operation of diagnostic equipment, the display systems, biological effects and quality assurance methods.

SON210 Vascular Sonography (3)
This course will cover the Basic scientific principles of ultrasound instrumentation and blood flow. Anatomy, physiology, hemodynamics and pathologic conditions of the cardiovascular system are emphasized. Description of common vascular diseases is given along with a practical guide as to how ultrasound is used to detect and quantify the disease. Ultrasound use for post-treatment assessment will be discussed as well.

DMS290 Clinical Practicum I (3)
Performance of sonographic examinations in area hospital’s radiology departments under the guidance of clinical coordinator or LRT (Licensed Ultrasound Technologist). Perform sonographic examinations as covered in SON130, SON170, and SON135. Students will perform radiologic procedures under direct supervision of an LUT. Students will be evaluated on patient care, principles of safety and radiation protection to the patient, technologists and other ancillary staff. Students must adhere to all hospital policies and regulations concerning patient’s rights.

DMS295 Clinical Practicum II (3)
Performance of sonographic examinations in area hospital’s radiology departments under the guidance of clinical coordinator or LRT (Licensed ultrasound Technologist). Perform ultrasonic procedures as covered in SON140, SON160, and SON210. Students will perform sonographic examinations under direct supervision of an LUT. Students will be evaluated on patient care, principles of safety and radiation protection to the patient, technologists and other ancillary staff. Students must adhere to all hospital policies and regulations concerning patient’s rights.
SON160 Obstetrics & Gynecology Sonography II (3)
This course is a continuation of Obstetrics & Gynecology Sonography I. Obstetrics & Gynecology Sonography II emphasizes the pathologic conditions of the female reproductive system and fetal development, and the detection of anomalies. Clinical presentation and maternal complications associated with pregnancy are also covered.

SON170 Abdominal Sonography II (3)
This course is a continuation of Abdominal Sonography I. Abdominal Sonography II emphasizes the pathologic conditions of abdominal vasculature, organs, systems and structures, and the diagnosis of diseases of the abdomen and small parts. This course will stress deviations from the norm and studies that make a diagnostically acceptable study.

SON180 Practical Aspects of Sonography I (3)
This course is designed to study of the principles of diagnostic ultrasound and practical aspects of scanning techniques, film critique, film identification and patient care and handling as related to sonographic examination. The operation of diagnostic ultrasound equipment and routine images obtained will be stressed.

SON190: Practical Aspects of Sonography II (3)
This course is a more in depth and advanced study of the principles of diagnostic ultrasound, further presenting the practical aspects of diagnostic procedures. The pathological processes will be emphasized, and all patient data and sonographic images will be correlated to assist in the differential diagnosis.

SON195 Echocardiography I (2)
This course is an introduction to echocardiography. The anatomy of the heart and the procedures used in screening are introduced stressing recognition normal patterns versus pathological ones. Echocardiography assesses the size and shape of the heart, pumping capacity, and the location and extent of any tissue damage. An echocardiogram can give estimates of heart function such as a calculation of the cardiac output, ejection fraction, and diastolic function. Echocardiography can also help detect cardiomyopathies, such as hypertrophic cardiomyopathy, dilated cardiomyopathy, and many others.

SON195L Echocardiography I Lab (1)
This is the laboratory component associated with SON195. This lab is designed to allow students to practice basic skills of sonographic scanning techniques of normal cardiac structures including real-time and Doppler scanning techniques. This course incorporates basic ultrasound scanning techniques using ultrasound equipment to practice the principles and protocols to the performance of basic Cardiac diagnostic sonographic imaging and Doppler procedures. Practice of the skills learned will take place in a lab setting and through designated area hospital’s radiology departments in a supervised setting.

SON270 Echocardiography II (2)
This course is an in-depth presentation of the complexities of diagnostic ultrasound as it applies to the heart and the chest stressing its capabilities and its limitations. Students will be exposed to advanced skills of sonographic scanning techniques of normal and abnormal cardiac structures including real-time and Doppler scanning techniques.
SON270L Echocardiography II Lab (1)
This is the laboratory component associated with SON270. This lab is designed to allow students to practice advanced skills of sonographic scanning techniques of normal and abnormal cardiac structures including real-time and Doppler scanning techniques. This course incorporates advanced ultrasound scanning techniques using ultrasound equipment in a lab and through designated area hospital’s radiology departments in a supervised setting.
**Associate of Science, Radiologic Technology**

Larkin University Associate of Science degree in Radiologic Technology is an intense study of patient care theory, science and practice, combining didactic, laboratory, and clinical study and experience. The first year includes basic medical sciences, and general education courses. The second year exposes students to courses in Radiologic Technology and provides clinical experiences. Upon completion of the program students will meet the American Registry of Radiologic Technologists (ARRT) academic and clinical education requirements to sit for the national ARRT Radiography certification exam.

**Program Objectives**

Larkin University Associate of Science Degree in Radiologic Technology program intended student learning outcomes specifically align with the American Registry of Radiologic Technologists (ARRT) academic and clinical education requirements. The program defines the following as intended program objectives for students enrolled in the program.

2. Graduates that are professionally and morally obligated to life-long learning in an ever-changing field of Radiologic Technology.
3. Graduates will pass ARRT Radiography certification exam on first attempt.
4. Demonstrate a high level of standard in patient care and clinical competency.
5. Effectively demonstrate core knowledge and application in their daily practice.
6. Effectively demonstrate interpersonal and communication skills that result in effective information exchange with patients, their families, and professional colleagues.
7. Demonstrate a high level of legal and ethical responsibility to diverse patient populations.
8. Demonstrate an awareness of and accountability for providing optimal patient care.
9. Demonstrate professional communication skills in writing through organizing, thinking critically, and communicating ideas and information in documents and presentations.
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<td>PHY150</td>
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<td>RAD170</td>
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<td>RAD190</td>
<td>Radiation Biology &amp; Protection</td>
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<td>RAD200</td>
<td>Clinical Practicum I</td>
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<td>RAD280</td>
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<td>RAD130</td>
<td>Radiologic Equipment</td>
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<td>RAD140</td>
<td>Radiologic Exposures</td>
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*General Education Courses
Course Descriptions

**ENC101 English Composition I* (3)**
English Composition I is an introductory course in expository writing that emphasizes the importance of purpose and audience awareness in writing. While completing the work of the course, you will learn processes that will enhance the skills you need for academic and business writing.

**MAC105 College Algebra I* (3)**
College Algebra is a review of linear and quadratic equations and inequalities; graphs of equations, including lines, circles, parabolas; composition, inverses of functions; transformations of graphs; linear and quadratic models; polynomials; exponentials, logarithms; counting; probability.

**STA202 Statistics* (3)**
This statistics course is an introduction to descriptive and inferential statistics, the measures of central tendency and description, correlation and regression, estimation probability and hypothesis testing.

**PSY260 Introduction to Psychology * (3)**
An introductory course to the field of psychology based on the psychology of human behavior. PSY260 will cover the following topics: history of psychology, sensation and perception, development, cognition, learning and memory, motivation, emotion, personality, biological basis of behavior, psychological disorders, and therapy.

**MAC210 College Algebra II* (3)**
A continuation of the College Algebra I sequence, this course is designed to revisit the linear and quadratic families of functions introduced in Algebra I. Topics covered will include equations and inequalities, coordinates and graphs, general functions, polynomial and rational functions, exponential and logarithmic functions of angles and real numbers, analytic trigonometry, systems of equations and inequalities, sequence and series.

**BSC285 Anatomy and Physiology I (3)**
This course will cover in a comprehensive manner, the structure and function of the human body. BSC 285 provides students with a thorough understanding of anatomy and physiology considering the following topics: body organization, the cell, tissues, membranes, glands, the integumentary system, the skeletal system, the muscular system, the nervous system, and the special senses.

**BSC285L Anatomy and Physiology I Lab (1)**
This is the laboratory component associated with BSC285. A survey of the structure, function, and chemistry of the human body. Topics include the cell, tissues, membranes, glands, the integumentary system, the skeletal system, the muscular system, the nervous system, and the special senses.

**BSC286 Anatomy and Physiology II (3)**
A continuation of the Anatomy and Physiology sequence, this course will cover in a comprehensive manner, the structure and function of the human body. BSC 286 provides students with a thorough understanding of anatomy and physiology considering the following topics: the circulatory system, the respiratory system, the digestive system, the urinary system, fluid and electrolytes and the reproductive system.
BSC286L Anatomy and Physiology II Lab (1)
This is the laboratory component associated with BSC286. A survey of the structure, function, and chemistry of the human body. Topics include the circulatory system, the respiratory system, the digestive system, the urinary system, fluid and electrolytes and the reproductive system.

RAD101 Introduction to Radiologic Technology (3)
This course is an overview of the career of a radiologic technologist, and the basic learning skills required. RAD101 provides a perspective on radiology and insight into key topics such as the language of medicine, digital and conventional imaging, patient care, and radiation safety. Medical terminology, abbreviations and symbols associated with human structure and functions, and radiology, are studied.

MTR105 Medical Terminology (3)
This course covers medical terminology from an anatomical and physiological approach. Emphasis is placed primarily on the building of medical terms from word parts. Prefixes, suffixes, word roots, combining forms, special endings, plural forms, abbreviations, and symbols are studied. Students will be able to build medical vocabulary and knowledge essential for careers in health professions.

RAD116 Radiologic Procedures I (3)
Students learn to perform the principles of radiographic positioning of the chest, abdomen, extremities, hips and pelvis. Practice on positioning skills will be provided in a lab setting and through designated area hospital’s radiology departments. Emphasis will be placed upon the quality of the diagnostic radiograph, the principles of safety and radiation protection to the patient, technologists and other ancillary staff.

RAD 116L Radiologic Procedures I Lab (1)
This is the laboratory component associated with RAD116. Practice on positioning skills in a lab setting and through designated area hospital’s radiology departments (radiographic positioning of the chest, abdomen, extremities, hips and pelvis). Emphasis will be placed upon the quality of the diagnostic radiograph, the principles of safety and radiation protection to the patient, technologists and other ancillary staff.

RAD202 Radiologic Procedures II (3)
Students learn to perform the principles of radiographic positioning of the digestive and urinary tract, spine, ribs, and skull. Practice on positioning skills will be provided in a lab setting and through designated areas hospitals radiology departments (radiographic positioning of the digestive and urinary tract, spine, ribs, and skull). Emphasis will be placed upon the quality of the diagnostic radiograph, the principles of safety and radiation protection to the patient, technologists, and other ancillary staff.

RAD202L Radiologic Procedures II Lab (1)
This is the laboratory component associated with RAD202. Practice on positioning skills in a lab setting and through designated area hospital’s radiology departments (radiographic positioning of the digestive and urinary tract, spine, ribs, and skull). Emphasis will be placed upon the quality of the diagnostic radiograph, the principles of safety and radiation protection to the patient, technologists and other ancillary staff.
RAD210 Radiologic Procedures III (3)
The students will learn the central nervous system, circulatory system, and cardiac catheterization. This course will provide the students with a basic knowledge of sectional anatomy, as it relates to various computer-generated modalities. Specific emphasis will be focused on angiography, interventional radiology, mobile radiography, surgical radiography, tomography, and computed tomography. The students learn to perform positioning on pediatric and geriatric patients. They will learn the principles of pediatric and geriatric imaging and special patient care that these patients must be provided with to achieve quality diagnostic radiographs.

RAD210L Radiologic Procedures III Lab (1)
This is the laboratory component associated with RAD210. Practice of the skills learned in RAD210 in a lab setting and through designated area hospital’s radiology departments (central nervous system, circulatory system, and cardiac catheterization). Specific emphasis will be focused on angiography, interventional radiology, mobile radiography, surgical radiography, tomography, and computed tomography. The students learn to perform positioning on pediatric and geriatric patients.

PHY150 Imaging Physics (3)
This course will concentrate on general theories of physics as they relate to matter, mechanics and electricity. It also involves the study of the nature and production of radiation and understanding of the complexity of radiographic equipment and x-ray circuitry. **Topics covered:** Basic physics 10%, X-ray generator components 30%, Radiographic rectification 10%, the complete x-ray circuit 20%, X-ray tubes 10%, and Radiation Protection.

RAD170 Image Analysis (3)
This comprehensive guide provides all the tools you need to accurately evaluate radiographic images and make the adjustments needed to acquire the best possible diagnostic quality images. You’ll discover how to evaluate an image, identify any improper positioning or techniques that caused poor quality, and correct the problem. No other text is devoted to equipping you with the critical thinking skills needed to properly position patients for optimal radiographs and help minimize the need for repeat images.

RAD 170L Image Analysis Lab (1)
This is the laboratory component associated with RAD170. Practice on radiographic images evaluation and adjustments needed to acquire the best possible diagnostic quality images will be provided in a lab setting and through designated area hospitals radiology departments.

RAD180 Advance Medical Imaging (3)
This course gives the students an introduction of other types of imaging that are available in radiography, that may be of interest in pursuing their careers. The students learn the principles of these imaging modalities, which include digital angiography and digital spot imaging, magnetic resonance imaging, diagnostic ultrasound, nuclear medicine, bone densitometry, positron emission testing, and radiation oncology. The fundamentals of quality assurance in a diagnostic radiology department will be presented.
RAD180L Advance Medical Imaging Lab (1)
This is the laboratory component associated with RAD180. Practice of the skills learned in RAD180 in a lab setting and through designated area hospital’s radiology departments. The students learn the principles of these imaging modalities, which include digital angiography and digital spot imaging, magnetic resonance imaging, diagnostic ultrasound, nuclear medicine, bone densitometry, positron emission testing, and radiation oncology.

RAD190 Radiation Biology & Protection (3)
The content of this course is to provide the students with a thorough understanding of the biological effects of ionizing radiation on the organism, and how to protect themselves, their patients and their coworkers. RAD190 reviews the concepts of radiation physics, human biology and radiation protection strategies.

RAD200 Clinical Practicum I (3)
Performance of radiographic procedures in area hospital’s radiology departments under the guidance of clinical coordinator or LRT (Licensed Radiologic Technologist). Perform radiology procedures as covered in Radiographic Procedures I. Students observe technologists positioning patients for various radiologic examinations. Students will perform radiologic procedures under direct supervision of an LRT. Students will be evaluated on patient care, principles of safety and radiation protection to the patient, technologists and other ancillary staff. Students must adhere to all hospital policies and regulations concerning patient’s rights.

RAD280 Clinical Practicum II (3)
Performance of radiographic procedures in area hospital’s radiology departments under the guidance of clinical coordinator or LRT (Licensed Radiologic Technologist). Perform radiology procedures as covered in Radiographic Procedures I & II. Students observe technologists positioning patients for various radiologic examinations. Students will perform radiologic procedures under direct supervision of an LRT. Students will be evaluated on patient care, principles of safety and radiation protection to the patient, technologists and other ancillary staff. Students must adhere to all hospital policies and regulations concerning patient’s rights.

RAD130 Radiologic Equipment (3)
This course is designed to focus on the review of all the radiographic equipment used in imaging departments and the principles underlying its operation, which will help students to make an efficient selection and subsequent use of apparatus. Need for safety in operation is stressed and procedures to test equipment performance will be covered as well.

RAD140 Radiologic Exposures (3)
The content of this course is to provide the principles of ionizing radiation and its effects on the human body. Chronic and acute effects of radiation effecting biological response will be presented. The principles of radiation protection to the radiographer, the patient, other personnel and the general public will be discussed. Focus will be on radiographic protection procedures, radiographic features in equipment, and the requirements of regulatory agencies on radiation health and safety. Course covers the ALARA (as low as reasonable achievable) concept. It also includes the definitions and significance of radiation protection and the biological effects of radiation. National and state requirements will be discussed.
RAD160 Radiologic Pathology (3)
This course is designed to focus on the characteristics and manifestations of diseases caused by alterations or injury to the structure and/or function of the human body. Concepts basic to pathophysiology as well as common disease conditions are studied to facilitate image correlation with these pathologies observed through diagnostic imaging. Distinguishing between additive pathologies, destructive pathologies, and how to adjust the exposure factors for optimum visualization of common disease conditions will be included in class discussions.

RAD195 Radiologic Science (3)
This course will concentrate on developing a professional identity, an understanding of the integrated health care team, an understanding of the languages of medicine in general and radiology in particular, and development of basic patient care techniques and skills. It will describe the evolving theories and concepts relevant to the profession, and current trends within the profession of radiologic science.