2018-2019 CATALOG

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Larkin University

18301 North Miami Avenue Miami, FL 33169

General Number (305) 760-7500

Web address: [www.Ularkin.org](http://www.Ularkin.org)
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Disclosures:

College of Biomedical Sciences

The Masters of Biomedical Sciences at Larkin University does not currently have accreditation through any accreditation body. 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 Master graduate courses as transferable credit for their professional school.

College of Health Sciences

Before 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

Larkin University College of Pharmacy’s Doctor of Pharmacy program has been granted Candidate status by the Accreditation Council for Pharmacy Education (ACPE). 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.

The Accreditation Council for Pharmacy Education (ACPE) accredits Doctor of Pharmacy programs offered by Colleges and Schools of Pharmacy in the United States and selected non-US sites. Candidate status is awarded to a Doctor of Pharmacy program that has students enrolled but has not yet had a graduating class. Graduates of a class designated as having Candidate status have the same rights and privileges of those graduates from a fully accredited program. ACPE conveys its decisions to the various boards of pharmacy and makes recommendations in accord with its decisions. It should be noted, however, that decisions concerning eligibility for licensure by examination or reciprocity reside with the respective state boards of pharmacy in accordance with their state statutes and administrative rules.
Notices

Larkin University does not discriminate in the admission or progression policies of students, scholarship and loan programs, or other activities administered by the university 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. Larkin University is 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 University 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 University provides more detailed information in this catalog. The information in this catalog supersedes all previous regulations, including tuition and fees previously published.
CEO’s Message

Dear Students:

Welcome to Larkin University, one of Florida’s newest private not-for-profit university that just celebrated this year its 5th anniversary!

Thanks to the vision, dynamics and the passion of the people involved, the small Larkin Health Sciences Institute, founded in 2013 with one college and study program, was growing since then into what is now Larkin University: a new university in a stimulating multicultural, multiethnic environment shaped to the needs of a diverse global society, delivering innovative education in a dynamic learning environment that incorporates the latest technologies, evidence based-science, and dedicated faculty who truly care about the students and their roles in the future health care system and related industries, including education. Our two colleges, the College of Biomedical Sciences and the College of Pharmacy are currently housed together in a 44,000 square foot building on our campus in North Miami. The Larkin academic experience continues to improve in both breadth and quality, as we continue to add academic programs and challenges to support your academic growth and prepare you for your future career in health sciences. I am convinced that Larkin University in the close future will be one of the leading medical universities in South Florida, strong in research, excellent in education! We here at Larkin are proud what we have achieved so far, and as you examine this catalog and become aware of the high-standing and quality of our programs and courses offered, you will recognize the remarkable opportunity you are facing. If you are a new student, I welcome you to our growing community and wish you success in your studies, professional and personal growth and enrichment through your experiences at Larkin University. If you are considering enrollment I encourage and invite you to come and learn more about the mission, vision and values of our university.

My best wishes for your academic success in the academic year 2018/2019 at Larkin University!

Rudi H. Ettrich, RNDr. MSc. PhD.
Interim Chief Executive Officer
# Contents

General Information .............................................................................................................. 12

History ................................................................................................................................. 12
Purpose ................................................................................................................................. 12
Mission ................................................................................................................................. 13
Vision .................................................................................................................................. 13
Core Values ......................................................................................................................... 13
Facilities ............................................................................................................................... 13

Admissions ......................................................................................................................... 13

International Applications—Certification of Eligibility (Form 1-20A) ............................ 14

Enrollment .......................................................................................................................... 14

Student Services .............................................................................................................. 14

Counseling and Psychological Services ......................................................................... 14

Personal Counseling ....................................................................................................... 14
Wellness ............................................................................................................................. 14

Library Services ............................................................................................................... 14
Library Mission .................................................................................................................. 14
Resources and Services .................................................................................................... 15
Library Hours .................................................................................................................... 15
Director of Library Services ........................................................................................... 15
Reference Services ........................................................................................................... 15

Financial Services ............................................................................................................. 15

Financial Student Aid ...................................................................................................... 15
Private Education Loans ................................................................................................. 15

General Eligibility for Financial Assistance ................................................................ 16
How to Apply for Financial Assistance ......................................................................... 16

Scholarship Awards ......................................................................................................... 16
Private Student Loans ....................................................................................................... 16
Cost of Attendance .......................................................................................................... 16

Tuition Management ....................................................................................................... 17
University Payment Agreement ....................................................................................... 17
Statement of Responsibility ............................................................................................ 17
Florida Prepaid College Program .................................................................................... 18
Course Descriptions .................................................................................................................. 93

College of Health Sciences ....................................................................................................... 95
Department of Health Sciences Mission Statement .................................................................. 95
Degree Programs ...................................................................................................................... 95
Associate of Science, Diagnostic Medical Sonography ............................................................ 95
Program Objective ................................................................................................................... 95
Program Description ............................................................................................................... 95
Admissions ................................................................................................................................ 96
Course of Study ....................................................................................................................... 97
Course Descriptions .............................................................................................................. 98
Associate of Science, Radiologic Technology ......................................................................... 103
Program Objective .................................................................................................................. 103
Program Description ............................................................................................................... 103
Admissions .............................................................................................................................. 103
Course of Study ....................................................................................................................... 105
Course Descriptions .............................................................................................................. 106
College of Pharmacy .............................................................................................................. 111
Mission Statement ................................................................................................................. 111
Vision Statement .................................................................................................................... 111
Core Values ............................................................................................................................. 111
Administration ....................................................................................................................... 111
Degree Programs .................................................................................................................... 111
Doctor of Pharmacy (Pharm.D.) Program Objective ............................................................... 112
Program Description ............................................................................................................... 112
Program Learning Outcomes ................................................................................................... 113
Admissions .............................................................................................................................. 114
Tuition and Fees ........................................................................................................................ 117
Refund Policy .......................................................................................................................... 118
Academic Calendar .................................................................................................................. 119
Academics ............................................................................................................................... 121
Advising ................................................................................................................................... 129
Student Organizations ............................................................................................................ 131
Student Government Association ............................................................................................ 131
Course of Study ................................................................................................................................. 132
Course Descriptions .......................................................................................................................... 134
General Information

History

Larkin University was founded as Larkin Health Sciences Institute (LHSI) in August of 2013 with the official filing of the Bylaws and first Board of Directors with the State of Florida, as well as the application for 501c3 nonprofit status with the US Internal Revenue Service. In the establishment of LHSI, the vision of the Founder, Dr. Jack Michel was to create a health sciences university devoted to interprofessional education, serving the education needs of underrepresented minorities of South Florida, and helping to fill the gap in the shortage of highly trained health care experts locally and nationally.

Shortly after founding Larkin Health Sciences Institute, The College of Biomedical Sciences sought and received approval from the Florida Department of Education’s Commission for Independent Education (CIE) to offer the first degree from LHSI, the Master’s in Biomedical Sciences. The College has since graduated over 50 alumni of that program. In 2015, the State of Florida approved the Doctor of Pharmacy Program, two additional master’s programs, and a Doctor of Philosophy (PhD) program in Clinical and Translational Research. The PhD program is scheduled to begin with the first cohort in Fall 2019.

Simultaneous with the founding of the College of Biomedical Sciences, was the beginning of a two-year process to begin the College of Pharmacy programmatic accreditation with the Accreditation Council for Pharmacy Education (ACPE). The first step in the process is to request a site visit for Pre-Candidate Status. Pre-Candidate status allowed the College of Pharmacy to enroll their first cohort into the Doctor of Pharmacy Program. Pre-Candidate status was awarded in July 2016, leading to the matriculation of the first class of student pharmacists in August 2016. The College of Pharmacy was awarded Candidate Status in July 2017, which allows all students graduating with a Doctor of Pharmacy Degree to apply for licensure as a pharmacist with any Board of Pharmacy in the United States or US Territory. The first class of pharmacy students will graduate in May 2019 and the application to ACPE for Full Accreditation Status will be in review.

In March 2017, the State of Florida approved the name change from Larkin Health Sciences Institute to Larkin University in recognition of its commitment to graduate education.

Purpose

Larkin University is organized for the purpose of operating as a scientific, charitable, and educational not for profit organization which provides the following services:

1. To provide licensed educational programs including but not limited to the areas of health sciences, specifically in the areas of pharmacy, osteopathy, nursing, biomedical science, and dentistry.
2. To advance the health and well-being of the people of South Florida through pioneering advances in education, research and health care delivery.
3. To do any and all lawful activities which may be necessary, useful, or desirable for the furtherance, accomplishment, fostering, or attaining of the foregoing purposes, either directly or indirectly, and either alone or in conjunction or cooperation with others, whether such others be persons or organizations of any kind or nature, such as corporations, firms, associations, trusts, institutions, foundations, or governmental entities,
Mission
Larkin University provides an inclusive interprofessional learning environment to enable students to learn together utilizing modern technologies, research, innovation, and personal and professional engagement to serve the needs of the community, state, nation, and world.

Vision
As one of the newest private not-for-profit universities in the state of Florida, Larkin University will champion the needs of a diverse global society through its educational programs, scholarly activity, and development of solutions that promote the common good of health and society.

Core Values
Larkin University is committed to:

* Excellence in learning, research, and engagement.
* Inclusive learning community.
* Dynamic interprofessional learning environment.
* Passion for the institutional mission.
* Acceptance and embracement of diverse cultures and perspectives.
* Improved quality of life for the people and communities of Florida, the nation and the world.
* Appreciation for academic, scientific, and humanitarian achievements on a local and international level.
* Passion for innovation and ongoing curiosity.
* Civility, integrity, and trustworthiness.
* Fiscal and programmatic accountability

Facilities
The building, located at 18301 North Miami Avenue, includes classrooms, laboratory facilities, and administrative offices for the Colleges of Pharmacy and Biomedical Sciences as well as Office of the Provost, Office of Admissions, Office of Financial Services, Office of the Registrar, Information Technology, Library, and Facilities Office.

Admissions
Anyone wishing to pursue studies at Larkin University must complete an application to the desired College. 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 University and cannot be returned or photocopied. Any misrepresentation or concealment of previous 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.

International Applications—Certification of Eligibility (Form 1-20A)

At this time, Larkin University is not eligible to issue an I-20 to international students.

Enrollment

Students are enrolled into courses each semester by the Registrar's office and agree to the terms of their enrollment by completing the Enrollment Agreement form provided during Orientation. Students will be able to view their enrollment status through the CampusNexus student portal. Any questions about enrollment should be directed to the Registrar's office.

Student Services

Counseling and Psychological Services

Personal Counseling

The Assistant/Associate Dean of Student Affairs and Admissions and the Director of Student Services in the College of Pharmacy have appropriate experience to provide initial, short-term, transitional, academic, and personal counseling services for Larkin University students. For additional support in providing wellness and mental health services, Larkin University has an on-site counselor with an affiliation with Larkin Behavioral Health Services (LBHS). The counselor will provide individual counseling and group wellness workshops. The counselor is available several evenings a week by appointment, or for drop in sessions. Students in need of intensive or emergency care will be referred to Larkin Behavioral Health Services providers or other outside services covered by the student's health insurance plan.

Wellness

The Assistant/Associate Dean of Student Affairs and Admission for the College of Pharmacy, in collaboration with Larkin Behavioral Health Services providers, offers wellness workshops for all Larkin University students on stress management, test anxiety, and time management, as well as other wellness topics beginning during Orientation and continuing throughout the year.

Library Services

Library Mission

The Mission of the Library at Larkin University (LU) is to support the diverse information needs of our academic community by promoting academic excellence, enhancing research and discovery and by fostering scholarship and success; by facilitating student and faculty access to collections of scholarly resources, and providing quality assistance in an environment which stimulates and supports academic inquiry, accomplished through the delivery of relevant library resources and services, partnerships with faculty and staff in the education of our students and the development of information competence and research skills that will prepare students for lifelong success in the digital age.
Resources and Services
The Larkin University Library (LU) 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.

Library Hours
Monday-Friday, 8am-4pm. Hours are adjusted to meet the needs of the campus community.

Director of Library Services
Sharon R. Argov, MLS, Ed.D. (sargov@ularkin.org)

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.

Financial Services

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

Private Education Loans
At Larkin University (LU) our Office of Student Financial Services is designed to provide financial assistance to students who need financial support in order to continue working toward their educational goals. LU works closely with all students in order to make the cost of education affordable. At this time, LU does
not offer Federal Student Aid; however, private student loans and scholarships are the primary sources for funding your education.

Students at LU typically secure funds from a variety of sources to finance their education. Sources include loans and scholarship awards. Graduate/doctoral students may also participate in tuition reimbursement plans if offered through their place of employment. A graduate/doctoral student at LU may receive a financial assistance combining aid from more than one of these sources. Aid from all sources may not exceed the cost of education.

General Eligibility for Financial Assistance
To be considered for Financial Assistance, a student must:

- Be accepted and enrolled at least half time each semester.
- Maintain satisfactory academic progress (SAP) as determined by the school.
- Apply within designated deadlines.

How to Apply for Financial Assistance
Scholarship Awards
The Office of Student Financial Services has compiled a list of scholarship resources that are offered outside of LU. 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 Student Financial Services the necessary information to be awarded accordingly.

Private Student Loans
LU offers Private Student Loans through various lenders. Private Student Loans are applied for on an annual basis, at the beginning of the academic year. Private Student 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. 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 Student Loan interest rates different for all lender, depending on the borrower’s credit history. Please visit our website for a current list of lenders working with LU.

Understanding your rights and responsibilities is extremely important when considering Private Student Loans. Choose the loan that is 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 (COA).

Cost of Attendance
The Office of Student Financial Services established a standard allowance for your direct and indirect expenses. The direct expenses are tuition and fee charges to the student’s account made by the institution. Included in the Cost of Attendance (COA) budget are expenses indirectly related to your education, such as an estimate for housing, food/household supplies, transportation and personal miscellaneous expenses. In keeping with common practice among financial aid administrators, the cost for indirect expenses intends to provide a “modest but adequate” standard of living. It is our recommendation that students borrow only what is needed and what he/she reasonably repay.
College of Pharmacy Cost of Attendance

College of Biomedical Sciences Cost of Attendance

Tuition Management

University 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 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 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 University 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 ("Charges"), may be added to your student account as appropriate in the University-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 University 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 Director of Financial Services at the time of registration. The 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 refund schedule per the individual program.

**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 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.
General Academic Policies and Regulations

Access to Student Records

Each student enrolled at Larkin University (LU) 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. 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:

- School officials who have a legitimate educational interest in the records, such as for purposes of recording grades, attendance, advising and determining financial eligibility.
- 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.

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 LU employees/agents which meets the following test:

- It was created by the LU employee/agent as a personal memory aid; and
- It is in the sole possession of the LU employee/agent who created it; and
- The information contained in it has never been revealed or accessible to any other person, including the student, except the LU employee/agent’s "temporary substitute." “Temporary substitute,” as used herein, means an individual who performs on a temporary basis the duties of the LU 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. The instructor or staff member involved will review the request, if necessary meet with the student, and then determine whether to retain, change, or delete the disputed data. If a student requests a further review, the Assistant/Associate Dean for Academic Affairs (ADAA) may conduct a meeting, giving the student an opportunity to present evidence relevant to the disputed issues. The student will be notified of the decision of the ADAA, which will be the final decision of the school. Copies of student challenges and any written explanations regarding the contents of the student’s record will be retained as part of the student’s permanent record. Grades and course evaluations can be challenged only on the grounds that they are improperly recorded in terms of this policy. If the student wishes to dispute the accuracy of the grading, rather than the accuracy of the recording of the grade, refer to Grade Appeal in the Student Handbook or to the Progression Policy and Procedures for the appropriate procedure.
Directory information is information on a student that the school may release to third parties without the consent of the student. LU 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.

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 LU 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, DC20202.

Advisors

Students will be assigned advisors upon registration and matriculation to specific programs. Students should meet regularly with their advisors to evaluate progress. Each College has specific advisor requirements for registration.

Change of Program or Major

Students who contemplate a change from one program or major to another should discuss this possibility with the 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 but within 2 times of the published completion time indicated in this catalog for the specific 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.

Change of Name

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).

Change of Personal Information

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.
Complaints and Grievance Procedures

Complaints
Larkin University (LU) is committed to continuous quality improvement of all programs and the University. Thereof, students will have opportunities to provide constructive feedback and complaints. The initial venue for students to provide feedback will occur by means of different surveys regarding courses, faculty, and student support services. Nevertheless, students will also have alternate mechanism to provide feedback, resolve informal grievances, and file formal complaints. In all instances, confidentiality will be maintained to the extent any such information is not necessary for the resolution of the complaint.

Informal Complaints
Students are strongly encouraged to initiate discussions of their concerns through an informal process with the appropriate individual(s) (e.g., faculty, staff, administrators) to attempt to resolve the issue. Students are also encouraged to provide input or suggestions directly to faculty, staff, or administrators. It is important that discussion, suggestions, or actions in line to resolve any issue be conducted with professionalism and respectful manners by all parties involved.

In the students lounge, there is a “Suggestion Box” for students to submit suggestions or concerns. Students are encouraged to include name and contact information for follow-up by an administrator; however, if submitted anonymously, resolution and follow-up to the complaint may not always be possible.

Students may also submit concerns through the Comments and Complaints Form located on the Larkin University website.

Formal/Written Complaints
Students may submit formal written complaints to any administrator within their program by using the Grievance Form. 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.

Complaints will be reviewed and directed to the appropriate individual(s) in order to identify an appropriate resolution to the complaint. A student will receive acknowledgement of the complaint within 5 business days. Students will receive a response or an update on the status within 30 days. For time-sensitive complaints, efforts will be made to expedite the response.

Students may appeal the response to the complaint to the CEO of LU. The appeal must be in writing and completed within 30 days of date of the response. Recurring areas of concern will prompt further assessment by the University.

If the alleged grievance is deemed justified, LU and/or the respective program will take steps it deems appropriate to correct any grievance suffered by the complaining student. For unresolved matters, students may contact the Commission for Independent Education, Florida Department of Education,
Formal complaints, along with the response from the appropriate individual(s), will be compiled in a secured location within the CEO’s office. The complaint will not be kept in the official student record. Students will not be subject to retaliation by any member of the LU community for submitting a complaint.

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.

Disability Services

Services for Larkin University (LU) students with disabilities are provided by the Office of Student Affairs and Admissions (OSAA) in the College of Pharmacy (COP), as directed by the Assistant/Associate Dean for Student Affairs and Admission (ADSAA) and the Director of Student Services (DSS). 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 LU 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 LU 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 Office of Student Affairs and Admissions.

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, LU 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, LU 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.

Dress Code

It is the expectation of the College of Pharmacy (COP) that students maintain a professional appearance. The following guidelines will assist in clarifying what is reasonable for didactic experiences at LU COP. Specific guidelines for dress code while in the lab will be provided separately by the course directors. The Office of Experiential Education (OEE) will also have guidelines for dress for clinical rotations which will be outlined in the manuals provided by the OEE.

For regular didactic class days, generally each day except Assessment Fridays, Reassessment Mondays, and End of Semester/Remediation Week:

All attire should be kept neat, clean and in good repair at all times.

Attire is to be appropriate and in good taste; unconventional or unprofessional clothing, including denim, Lycra, see-through fabrics, and skirts more than two (2) inches above the knee are not permitted.

Clothing shall be loose enough to allow freedom of activity in the performance of all classroom and school activities without exposing any undergarment when standing, stooping, bending or sitting.

Casual tops (i.e., T-shirts, tank tops, halter tops, tops with lettering or pictures) are not permitted. Discreet monograms are permissible. Sheer or see-through clothes, including shirts and blouses, are not acceptable. Midriffs should not be visible.
Scrubs are not permitted.

Dresses and skirts should be businesslike and appropriate. Party wear, beach cover-ups, low-cut necklines/backs are NOT permitted. Denim or leather fabric is not permitted. Business lengths should be observed at all times which is no more than 2 inches above the knee. Split skirts are permissible providing they meet the established length guidelines. Slits should not exceed 5 inches above the knee. Sheer or see-through materials are not acceptable.

Short tops/dresses and leggings combinations are not permitted.

Pants should be business like in style. No denim or leather fabrics are permitted. No stirrup, tight, or stretch pants are permitted. Jeans, even in colors other than blue denim, are not permitted. Shorts and pants reaching no more than mid-calf are not permitted.

Students are expected to maintain proper hygiene. Cosmetics, cologne and perfume should be used in moderation.

Any jewelry that can be considered a safety hazard or a distraction to the educational process is to be avoided.

Hair must be clean and neatly styled. Extreme, unprofessional, or unconventional hairstyles are to be avoided. Long hair must be arranged away from the face and at an appropriate length so as not to interfere with or cause a distraction in class. Hair ornaments, when worn, must be appropriate and in keeping with a business environment.

Facial hair must be kept neatly trimmed.

Head coverings of any kind are not permitted, unless such coverings are worn for religious reasons, however, the full face must be visible.

Jackets and ties are encouraged where and when appropriate for guest speakers and special events on campus.

Backless shoes, sandals, sneakers, and flip flops are not permitted.

Nail length and polish will be conservative and in good condition. Fingernails should be kept short, clean, smooth and well-manicured. Nail decals and/or nail jewelry are not acceptable.

Only professional patches, Institute pins or LU-sanctioned pins used for purposes of promoting the image of LU may be worn.

**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.

**Employment Assistance**

Although placement assistance may be offered, the institution does not guarantee employment.
Enrollment Verification Letters.

Students who need an enrollment verification letter must complete the Enrollment Verification form and submit the form 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.

Federal Educational Rights and Privacy Act

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.

Graduate Student Status

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

- Full-time: 6 credits or more
- Part-time: 1 to 5 credits

Harassment Policy

Larkin University (LU) promotes an environment free from any type of discrimination, including harassment. All students, faculty, and staff of LU are expected to uphold the non-discrimination statement as well as the Code of Conduct. There is no tolerance, under any circumstances, for any form of harassment or discrimination, which includes threatening, offensive, or intimidating behavior or remarks; demands for sexual favors; or behavior that creates a hostile or intimidating environment because of another person’s gender/gender identity, age, race, ethnicity, national origin, religion, creed, sexual orientation, and/or disability.

Harassment of another person will result in disciplinary action against any student or employee who is found, upon investigation, to have engaged in such conduct. Disciplinary action for students may result in educational programming, academic probation, leave of absence, or dismissal from the program, and for faculty and staff, consequences may include written warning, educational programming, or termination of employment as determined by human resources.

Types of Harassment

Harassment may include verbal or physical behavior or conduct that denigrates or shows hostility or aversion towards an individual because of his or her gender/gender identity, age, race, ethnicity, national origin, religion, creed, sexual orientation, and/or disability and that:
• Has the purpose or effect of creating an intimidating, hostile, or offensive working or academic environment;
• Has the purpose or effect of unreasonably interfering with an individual’s academic work or performance; or
Otherwise adversely affects an individual’s academic or employment opportunities. Harassing behavior or conduct includes, but is not limited to the following:

• Epithets, slurs, negative stereotyping; threatening, intimidating or hostile acts that relate to gender/gender identity, age, race, ethnicity, national origin, religion, creed, sexual orientation, and/or disability and
• Writing or graphic material that denigrates or shows hostility or aversion toward an individual or group because of gender/gender identity, age, race, ethnicity, national origin, religion, creed, sexual orientation, and/or disability that is placed on walls, bulletin boards, or elsewhere on the College’s premises or circulated in the classroom or workplace.

_Hazing_

Hazing is considered a form of harassment and is defined as an abusive, often humiliating form of initiation into or affiliation with a group, including any willful action taken or situation created which recklessly or intentionally endangers the mental or physical health of another. Hazing will not be tolerated and will be considered a form of harassment and managed accordingly.

_Sexual Harassment_

Larkin University (LU) is committed to maintaining a safe and healthy educational and work environment. The University firmly believes that sexual harassment and discrimination undermine the integrity of human relationships. Accordingly, LU does not tolerate any behavior that subjects any member of the University community to discrimination or harassment on the basis of sex, sexual orientation, or gender identity. Sexual harassment, including sexual violence, is a form of sex discrimination, which illegally denies or limits an individual’s ability to participate in or benefit from University programs or activities. LU will not tolerate the exclusion of any individual from participation in or the benefit of any University program or activity based on discrimination.

The following standards are designed to foster a safe environment in accordance with the governing federal regulations, Title IX of the Education Amendments of 1972 and the relevant sections of the Violence Against Women Reauthorization Act. These standards apply equally to all regardless of the sex, gender, sexual orientation, gender identity, or gender expression of any of the individuals involved.

• Sexual harassment is unwelcome sexual advances, requests for sexual favors, or other physical expressible behavior of sexual nature where:
• Submission to such conduct is made explicitly or implicitly as a condition for an individual’s employment or education;
• Submission to or rejection of such conduct by an individual is used as the basis for academic or employment decisions affecting an individual; or
• Such conduct has the purpose or effect of substantially interfering with an individual’s academic or professional performance or creates an intimidating hostile or offensive work or academic
environment even if the person engaging in the conduct does not intend to interfere, intimidate, or be hostile or offensive.

**Reporting Procedure**

LU will not tolerate harassment or discrimination by any member of the University community. Specific concerns or complaints regarding harassment or discrimination should be brought to the attention of the Assistant/Associate Dean of Student Affairs and Admissions (ADSAA) in the College of Pharmacy who will promptly, fully, and objectively investigate the complaint. Any student who believes he or she has been or is being harassed or is experiencing discrimination in violation of University policy, or witnesses what he or she believes to be harassment in violation of University policy, has an obligation to report such harassment to the ADSAA. Complaints will be processed either informally or through the formal procedure as described below.

At the informal level, the primary goal will be to resolve the situation to the mutual agreement of all parties. At this stage, students who believe they have been harassed can consult the ADSAA in an effort to resolve the matter without the necessity of a full investigation. An informal resolution may include a meeting between the affected parties or a personal letter by the complainant to the alleged harasser that outlines the problematic behavior, describes the effect of the behavior on the writer, and expresses a wish for the behavior to stop. At this level, a full report will be created to document the steps taken to resolve the issue(s).

If the complaint is not or cannot be resolved at the informal stage, the student can request an investigation in writing to the ADSAA. The complaint will be investigated, through mechanisms including, but not limited to, interviews of the necessary parties; including the accused, the complainant, and any witnesses or others deemed necessary to complete the investigation, or review of written or other evidence related to the complaint. After completion of the investigation, the ADSAA will meet with the complainant and the accused (if appropriate) separately, to review the investigation findings and possible resolution to the claim. If the student who made the complaint is not satisfied with the outcome, he or she may appeal the decision to the Dean.

Any student who is found to be in violation of LU’s sexual harassment policy will be subject to sanctions in accordance with the student handbook, up to and including dismissal from the program and University. Additionally, students experiencing harassment or discrimination may consult with Larkin Behavioral Health Services to discuss their reporting options as well as to seek mental health services for issues arising from such experiences.

**Information Technology**

The Larkin University (LU) Office of Information Technology department provides support of the computers to students.

**Electronic Communication Policy**

In general – Incidental use of Larkin University (LU) e-mail and internet is at the student’s risk and the user should not have a sense of privacy. The Internet is in the Public Domain.
The following summarizes the responsibilities/policies that students who use LU-provided Internet services and e-mail must follow:

- LU students have an obligation to use their access to the Internet and e-mail in a responsible and informed way, conforming to network etiquette, customs, courtesies and any or all applicable or regulations;
- Students are responsible for ensuring that the person sending any material over the Internet has the appropriate distribution rights;
- As with other forms of publications, copyright restrictions/regulations should be observed;
- Students shall be aware that the conduct/information they publish can reflect on the reputation of LU. Therefore, professionalism in all communications is of the utmost importance; and
- Students shall represent themselves accurately and honestly through electronic information or service content.

Unacceptable Uses

Since the Internet and e-mail constitute an uncensored worldwide network of networks that provides for peer- to-peer communications between participants, they also have great potential for misuse.

Use of LU Internet and e-mail resources is a privilege that may be revoked at any time for inappropriate conduct. Any abuse of acceptable use policies may result in revocation of access, notification of LU management, and disciplinary action up to and including referral to Student Progression and Professionalism Committee (SPPC).

Under no circumstances is a student at LU authorized to engage in any activity that is illegal under local, state, federal or international law while utilizing LU-owned resources.

Abuse of the Internet access provided by LU in violation of law or LU policies will result in disciplinary action, up to and including referral to SPPC. Students may also be held personally liable for any violations of this policy.

The use of enterprise-provided access to the Internet is intended exclusively for academic use.

Students who use Internet access capability for personal business must adhere to the same polices and guidelines applicable to the organization as a whole. Violation of this policy may be grounds for referral to SPPC.

Internet users must report all security problems or suspected violations to the Director of Information Technology as soon as it is known.

Internet users must abide by all software licensing agreements, copyright laws, and other applicable regulations.

The following behaviors are example of actions and activities that are prohibited and can result in disciplinary action. This list is not intended to be all-inclusive:

- Sending or posting discriminatory, harassing or threatening messages or images. Using the organization’s time and resources for personal gain.
- Stealing, using or disclosing someone else’s code or password without authorization.
• Engaging in unauthorized transactions that may incur a cost to LU or initiate unwanted Internet services and transmissions.
• Sending or posting messages or material that could damage LU’s image or reputation.
• Participating in the viewing or exchange of pornography, obscene materials or other sexually explicit materials.
• Sending or posting messages that defame or slander other individuals. Attempting to break into the computer system of another organization or person. Refusing to cooperate with a security investigation.
• Sending or posting chain letters, solicitations or advertisements not related to business purposes or activities.
• Using the Internet for political activities, religious activities or any sort of gambling. Jeopardizing the security of the organization’s electronic communications systems.
• Gaining access to the Internet by using any access-control mechanism not assigned to the particular user or permitting another person to have access to the Internet by using the student’s assigned access-control mechanism.
• Using, transmitting, changing or deleting another user’s files or software without permission. Sending anonymous email messages.
• Using access for any reasons violating Institute rules and regulations or other illegal activities.

Access to the Internet has been provided to students for the benefit of the academic use. It allows students to connect to information resources around the world. Every student has a responsibility to maintain and enhance the company's public image, and to use the Internet in a productive manner. To ensure that all students are responsible, productive Internet users and are protecting the company's public image, the following guidelines have been established for using the Internet.

Acceptable Uses of the Internet

Students accessing the Internet at LU are representing the University. All communications should be for academic or professional reasons. Students are responsible for seeing that the Internet is used in an effective, ethical and lawful manner. Internet Relay Chat channels may be used to gain technical or analytical advice. Databases may be accessed for information as needed. E-mail may be used for educational and professional contacts.

Communications

Each student is responsible for the content of all text, audio or images that they place or send over the Internet. Fraudulent, harassing or obscene messages are prohibited. All messages communicated on the Internet should have the students name and year of graduation (e.g., Class of 2020) attached. The use of the LU seal and banner in email signature lines is encouraged. No messages will be transmitted under an assumed name. Users may not attempt to obscure the origin of any message. Students are required to check their myULarkin email accounts daily and respond within 2 business days to communication from faculty or administrators. Information published on the Internet should not violate or infringe upon the rights of others. No abusive, profane or offensive language is transmitted through the system. Students who wish to express personal opinions on the Internet are encouraged to obtain their own usernames on other Internet Systems.
Software

To prevent computer viruses from being transmitted through the system there will be no unauthorized downloading of any software. All software downloads will be done through the Information Technology Department.

Copyright Issues

Students may not transmit copyrighted materials on the Internet belonging to entities other than LU. One copy of copyrighted material may be downloaded for the user’s own personal use in education or research. Users are not permitted to copy, transfer, rename, add or delete information or programs belonging to other users unless given express permission to do so by the owner. Pirated materials may not be downloaded or used. Failure to observe copyright or license agreements may result in disciplinary action from the company or legal action by the copyright owner.

Students must request permission from faculty, in advance, to record any part of the didactic lecture or lab. Each faculty member has discretion regarding what information may be recorded and in what mode (eg, photo, audio, or video). Due to patient confidentiality and HIPAA regulations, no recording of any kind is permitted during patient encounters.

IT Security

All messages created, sent or retrieved over the Internet are the property of LU, and should be considered public information. The Institute reserves the right to access and monitor all messages and files on the computer system as deemed necessary and appropriate. Internet messages are public communication and are not private. All communications including text and images can be disclosed to law enforcement or other third parties without prior consent of the sender or the receiver.

Knowledge of Regulations

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:
• Transcripts - Students must request a copy of the transcript from the originating institution.
• Health records
• Confidential recommendations, if
  o The student has waived the right to see the recommendations, and/or
  o 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 university official.

Request to Register at Another Institution

Larkin University does not allow students to complete required courses for graduation at another institution at this time.

Substance Abuse

As a member of the health care team, it is vital for students to understand their responsibility to patients as well as to their colleagues, peers, and their respective profession.

Students are expected to:

• Observe state and federal laws.
• Promote a campus free of illegal drug use.
• Stress moderation, safety and individual accountability by those who choose to drink alcohol.
• Provide an atmosphere free of coercion for those who choose not to drink alcohol.
• Provide information and education on the health risks associated with drug and alcohol use and/or abuse.
• Provide information and referral for confidential guidance and counseling for those with special needs related to substance abuse.
• Protect patient safety and the integrity of educational practice settings.
• Report to class, lab, or any other official LU activity unimpaired and remain in a condition fit to perform.

Reporting to class, lab, or other official LU activity while impaired by drugs or alcohol or possession of drugs or alcohol is a violation of this policy and shall subject the student to the appropriate disciplinary and/or rehabilitative action.

As a condition of enrollment, every student must abide by the terms of this guideline and notify the Assistant/Associate Dean of Student Affairs and Admissions in the College of Pharmacy of any drug or alcohol related conviction. If during enrollment a drug or alcohol related arrest or conviction should occur, notice is to be given no later than five days after such event; this includes but is not limited to D.U.I. 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 LU will not be tolerated.
Student Responsibility

Students are responsible for compliance with the regulations of the school and should familiarize themselves with the provisions of this catalog distributed by Registrar Office 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 university, of the schools in which they are enrolled, and of their major disciplines.

Student Right to Know Act

Larkin University is in compliance with the Student Right-to-Know and Campus Security Act (PL 101-542).

Transfer Courses

Transferability of Credits

Students seeking to transfer credits earned at another postsecondary institution from Larkin University to other institutions should note that the transferability of credits is at the discretion of the accepting institution. Larkin University does not accept transfer credits at this time.

Transcript Request

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 form.

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 should be submitted to:

Office of the Registrar

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

Campus Safety

Crime Awareness and Campus Security

Safety on campus is a shared responsibility involving everyone in the University community. Students, staff, and faculty have a responsibility to be alert to matters of security. Students, staff, and faculty are asked to exercise reasonable caution on campus and to be alert to suspicious persons or activities and report them to Facilities Office. Please be certain that main doors are not propped open or left unlocked and that unauthorized persons are not permitted to enter any campus building. The University complies with the requirements of the “Campus Crime Awareness and Campus Security Act of 1990.”
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| Kenneth C. Jackson, II, Pharm.D. | **PH505** Ethics and Law  
**PH605** Neurologic and Psychiatric Disorders III  
**PH606** Hematologic and Oncologic Disorders  
**PH615** Treatment of Special Populations and Critical Care  
**PH619E** Leadership and Advocacy in Healthcare | Pharm. D. – Creighton University, Omaha, NE  
B.S. in Pharmacy – University of Houston, Houston TX |
| Kathleen Jodoin Pharm.D. | **PH501** Introduction to Pharmacy  
**PH511** Introductory Pharmacy Practice Experience I (Community)  
**PH511** Introductory Pharmacy Practice Experience II (Hospital)  
**PH701** APPE—Ambulatory Patient Care  
**PH702** APPE—General Medicine Patient Care  
**PH703** APPE—Hospital/Health Systems Pharmacy  
**PH704** APPE—Community Practice  
**PH705** APPE—Patient Care Elective I  
**PH706** APPE—Patient Care Elective II  
**PH707** APPE—Elective  
**PH708** NAPLEX Preparation and Review Block | Pharm.D. - University of Florida, Gainesville, FL  
A.A. – University of Florida, Gainesville, FL |
| Alicia Lopez, Pharm.D. | **PH508** Nonprescription Medicine and Self-Limiting Diseases  
**PH603** Neurologic and Psychiatric Disorder I  
**PH604** Neurologic and Psychiatric Disorder II  
**PH605** Neurologic and Psychiatric Disorder III  
**PH608** Gastrointestinal Disorder  
**PH615** Treatment of Special Populations and Critical Care | Pharm. D. – Shenandoah University, Winchester, VA  
B.A. in Biology – Nova Southeastern University, Fort Lauderdale, FL |
| Nicole Lounsbury, Ph.D. | **PH504** Pharmaceutics I with Compounding Lab  
**PH506** Pharmaceutics II with Aseptic Technique  
**PH507** Medicinal Chemistry and Pharmacology/Toxicology I  
**PH508** Nonprescription Medicine and Self-Limiting Diseases  
**PH513** Med Chem & Pharmacology/Toxicology II  
**PH514** Respiratory Disorders | B.S., Worcester Polytechnic Institute, Worcester, Massachusetts  
Ph.D., Temple University, Philadelphia, Pennsylvania |
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<tr>
<th>Course Code</th>
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<th>Institution</th>
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<td>Endocrine and Metabolic Disorders</td>
<td>Andrea Murzello, Pharm.D.</td>
<td>Nova Southeastern University, Fort Lauderdale, FL</td>
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<td>Jayesh Parmar, Ph.D.</td>
<td>University of Louisiana at Monroe, Monroe, LA</td>
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<tr>
<td>Idelxy Perez, M.D.</td>
<td><strong>MSB540</strong> Pathophysiology, <strong>MSB550</strong> Human Anatomy, <strong>MSB560</strong> Human Physiology, <strong>MSB593</strong> Comprehensive Exam</td>
<td>M.D. – Escuela Autonoma de Ciencias, San Jose, Costa Rica</td>
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<tr>
<td>Felix E. Rivera-Mariani, Ph.D.</td>
<td><strong>MSB501</strong> Biochemistry 1, <strong>MSB502</strong> Biochemistry 2, <strong>MSB511</strong> Immunology and Medical Microbiology I, <strong>MSB520</strong> Molecular Genetics, <strong>MSB600</strong> Thesis</td>
<td>Ph.D. in Microbiology – University of Puerto Rico, San Juan, Puerto Rico</td>
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<td>Priscilla Ryder, Ph.D.</td>
<td><strong>PH505</strong> Ethics and Law, <strong>PH509</strong> Pharmacy Practice and Interprofessional and Patient Communications, <strong>PH517</strong> Bone and Joint Disorders, Dermatology, EENT, <strong>PH519</strong> Renal Disorders, <strong>PH521</strong> Practice Management, <strong>PH602</strong> Cardiovascular Disorders II, <strong>PH604</strong> Neurologic and Psychiatric Disorders II, <strong>PH606</strong> Hematologic and Oncologic Disorders II, <strong>PH609</strong> Pharmacoeconomics, and Pharmacoepidemiology, Policies and Outcomes, <strong>PH618</strong> Literature Evaluation II and Doctoral Seminar</td>
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<td>Melissa Santibanez, Pharm.D.</td>
<td><strong>PH502</strong> Medical Biochemistry, <strong>PH602</strong> Cardiovascular Disorders III, <strong>PH612</strong> Infectious Origin Disorders II, <strong>PH614</strong> Infectious Origin Disorders IV and APhA Immunization Training Module, <strong>PH615</strong> Treatment of Special Populations and Critical Care</td>
<td>Pharm.D. - Nova Southeastern University, Fort Lauderdale, FL</td>
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<td>Jordan Sedlacek, Pharm.D.</td>
<td><strong>PH514</strong> Respiratory Disorders, <strong>PH515</strong> Endocrine and Metabolic Disorders, <strong>PH520</strong> Cardiovascular Disorders I, <strong>PH601</strong> Cardiovascular Disorders II, <strong>PH602</strong> Cardiovascular Disorders III</td>
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<td>Surabhi Shukla, Ph.D.</td>
<td><strong>PH504</strong> Pharmaceutics I with Extemporaneous Compounding, <strong>PH506</strong> Pharmaceutics II with Aseptic Technique</td>
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<td>PH512 Biopharmaceutics and Pharmacokinetics</td>
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<td>Jennifer Thomas, Pharm.D.</td>
<td>PH505 Ethics and Law</td>
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<td>PH508 Nonprescription Medicine and Self-Limiting Diseases</td>
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<td>A.A. – Tallahassee Community College, Tallahassee, FL</td>
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<td>B.S. in Geological Science; B.A. in Spanish - University of Miami, Coral Gables, FL</td>
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<td>A.S in Chemistry – Prairie State College, Chicago Heights, IL</td>
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<td>Mohammad Nasir Uddin, Ph.D., M.S.</td>
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<td>M.S. in Chemistry – Jahangirnagar University, Dhaka, Bangladesh</td>
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<td>Radiologic Technology</td>
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<td>Associate of Science</td>
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*At this time, only the Doctor of Pharmacy and Master’s in Biomedical Sciences are offered at Larkin University*
Academic Programs

College 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
Rudi H. Ettrich, RNDR. MSc. PhD. Dean, College of Biomedical Sciences

Degree Programs
Doctor of Philosophy, Clinical and Translational Research (102 Credit Hours)
Master of Science, Biomedical Sciences (33 Credit Hours)
Master of Science, Clinical Cellular and Molecular Biology (35 Credit Hours)
Master of Science, Clinical Anatomy (36 hours)

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:
  - Analyze clinical or biological problems in healthcare (Critical Thinking).
  - Design experiments and analyze data (Critical Thinking).
  - Demonstrate collaboration by actively engaging in interdisciplinary local and global community outreach efforts for health promotion (Communication, Professionalism).
  - Participate in health-related research and scholarship (Professionalism).
  - Correlate principles of molecular and cellular pathology to selected health and disease states (Critical Thinking, Communication).
  - Demonstrate technology skills to enhance overall lifelong learning through peer-reviewed publications (Communication, Professionalism).
  - 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).
Program Description

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.

Admissions

Admission Requirements

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.

All applicants for the master’s degree should have an undergraduate GPA of 3.0 or better on a 4.0 scale.

All applicants for the master’s degree are required to submit an official Graduate Record Examination (GRE) score or a United States Medical Licensing Examination (USMLE) Step 1 score. Other standardized test scores (MCAT, DAT, VAT, and PCAT) may be substituted for the GRE.

Two recommendation letters from a basic or medical sciences professor.

A resume and a personal statement of educational/professional goals.

Prerequisites

Required Pre-requisite courses: 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.

Cost of Attendance

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<th>Tuition Cost per Credit</th>
<th>Number of Credits</th>
<th>Total Cost</th>
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<td>$700</td>
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</table>

PhD in Clinical and Translational Research

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 are not refundable.
Refund Schedule

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<tr>
<th>Week</th>
<th>Description</th>
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<td>1</td>
<td>Through the end of the drop/add period: 100% tuition and fees</td>
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<tr>
<td>2</td>
<td>75% tuition refunded, no fees refunded</td>
</tr>
<tr>
<td>3</td>
<td>50% tuition refunded, no fees refunded</td>
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<tr>
<td>4</td>
<td>25% tuition refunded, no fees refunded</td>
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<tr>
<td>5</td>
<td>0% tuition refunded, all students who withdraw will be charged a $75 withdrawal fee</td>
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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.

Definition of a 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 hour
- 1 internship/externship or practicum credit = 45 hours

Grade Reports

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.

<table>
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<tr>
<th>Grade</th>
<th>Percentage Score</th>
<th>Letter</th>
<th>Quality Points</th>
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<td>93-100%</td>
<td>A</td>
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<tr>
<td>A-</td>
<td>91-92 %</td>
<td>A-</td>
<td>3.7</td>
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<tr>
<td>B+</td>
<td>89-90%</td>
<td>B+</td>
<td>3.3</td>
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<tr>
<td>B</td>
<td>85-88%</td>
<td>B</td>
<td>3.0</td>
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<tr>
<td>B-</td>
<td>83-84%</td>
<td>B-</td>
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<td>Percentage Range</td>
<td>Grade</td>
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<tr>
<td>81-82%</td>
<td>C+</td>
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<tr>
<td>77-80%</td>
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<td>75-76%</td>
<td>F</td>
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<td>69-72%</td>
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<td>67-68%</td>
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<td>0-66%</td>
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Satisfactory: Not Computed
Unsatisfactory: Not Computed
Withdrawal/Prior to 50% completion: Not Computed
Withdrawal/After to 50% completion: 0.0
Withdrawal/Non Attendance:

* Converts to grade of F if no grade entered by end of two weeks

**Repeated Course**

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 or 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 computed into the final grade average for the course and into the CGPA.

**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 2.0 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 2.0 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.

Recording of Final Grades

All course grades will be recorded as a letter grade in CampusNexus. Each transcript will report the letter grade earned in the course.

Grade Appeals

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 Academic Advisor.

b. In the event that the grievance is not settled with the faculty member, the student must write a letter to the Academic Coordinator 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 Academic Coordinator will make an informal investigation, hearing both the student and the faculty member, and attempt an informal reconciliation. The Academic Coordinator 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.

Recognition of Honors

The top 10% of students each semester (non-cumulative) will be included in the Dean’s List.

Satisfactory Academic Progress (SAP)

To maintain satisfactory progress in the Ph.D. in Clinical and Translational Research program, the student must:

- Complete their total program in no more than 7 academic years.
- Establish and maintain at least a 2.5 GPA by the end of the student's second term of enrollment and all subsequent terms. (Grades for classes that were transferred from another school are shown as “T” on the transcript and will not be used in computing the student’s grade point average.)
- The student must pass (with 80% grade) a comprehensive exam, with written and oral components. This exam will be administered by the student’s dissertation advisor in collaboration with the student’s dissertation committee. The written component will be administered by the dissertation advisor, and the oral component will be administered by the dissertation committee. The student has three opportunities to pass the comprehensive exam.
- Successfully present, as determined by the student’s dissertation committee, a dissertation proposal.
During course of the program, the student must have submitted at least four manuscripts in peer-reviewed journals in topics aligned to the dissertation proposal as approved by the dissertation committee.

Present and successfully defend, in a seminar open to the public and in the presence of the dissertation committee, the methods, results, findings, and conclusion resulting from the approved proposed dissertation.

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

Policy on Leave

Voluntary Leave of Absence

A student may request a voluntary LOA from Larkin University (LU) College of Biomedical Sciences (COBS) by means of a voluntary leave of absence form. The voluntary LOA must be taken to the following individual for a signature:

The Dean

The student must inform the Dean, with the form, at least 30 days before the start of the semester or the end of the semester that was completed. If the student does not return in a timely manner, they will be withdrawn from the program. Only one (1) voluntary leave absence request will be granted in a 12-month period. A voluntary leave of absence will delay the expected graduation date and courses needed for program completion upon the student’s return are not guaranteed.

Withdrawals

Procedure for Withdrawal

Students withdrawing from Larkin University (LU) College of Biomedical Sciences must do so officially by submitting the Withdrawal Form to the following individual for a signature:

The Dean

After this signature has been obtained, the student must submit the form to the Director for Financial Services (DFS) who will counsel the student on their financial responsibilities to the school and the loan provider. The DFS will send the completed form to the Registrar for final processing.

It is the responsibility of the student to initiate a withdrawal, otherwise, an F grade will be issued at the end of the term. Students who withdraw from the program will not be permitted to return to the program without first meeting with the Dean.
Graduation Requirements

The following are the requirements for graduation for students expecting to graduate at the end of any semester term from the Larkin University College of Biomedical Sciences:

- Must meet specified academic requirements (i.e., GPA) for graduation for the specific program;
- Complete all degree requirements specified for the appropriate degree program;
- 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.

A total of 102 hours of graduate coursework 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.

Advising

For students in the Ph.D. in Clinical and Translational Research, he/she must have selected a faculty mentor within the first semester of program. The student must approach the faculty to inquire his/her availability to serve as a prospective dissertation advisor.
## 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>PCTB500</td>
<td>Foundations of Clinical and Translational Research</td>
<td>3</td>
</tr>
<tr>
<td>PCTB510</td>
<td>Principles of Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>PCTB512</td>
<td>Statistics in Clinical and Translational Research</td>
<td>3</td>
</tr>
<tr>
<td>PCTB520</td>
<td>Clinical Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>PCTB522</td>
<td>Research Design, Ethics, and Implementation</td>
<td>3</td>
</tr>
<tr>
<td>PCTB530</td>
<td>Regulatory Policies in Clinical and Translational Research</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Seminar in Clinical and Translational Research</td>
<td>1</td>
</tr>
<tr>
<td>PCTB540</td>
<td>Strategies in Scientific Writing</td>
<td>3</td>
</tr>
<tr>
<td>PCTB600</td>
<td>Comprehensive Exam and Preliminary Proposal</td>
<td>8</td>
</tr>
<tr>
<td>PCTB602</td>
<td>Dissertation</td>
<td>54 (6 credits/semester)</td>
</tr>
<tr>
<td></td>
<td><strong>Total Core Courses</strong></td>
<td><strong>84</strong></td>
</tr>
</tbody>
</table>

**Electives (Select 18 credit hours from the following)**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCTB512</td>
<td>Advanced Epidemiological Methods</td>
<td>3</td>
</tr>
<tr>
<td>PCTB513</td>
<td>Genetic Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>PCTB550</td>
<td>Principles of Drug Development and Pharmaceutical Science</td>
<td>3</td>
</tr>
<tr>
<td>PCTB570</td>
<td>Intro to Clinical Informatics</td>
<td>3</td>
</tr>
<tr>
<td>PCTB552</td>
<td>Introduction to Clinical Trials and Intervention Studies</td>
<td>3</td>
</tr>
<tr>
<td>PCTB560</td>
<td>Immunology and Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>PCTB572</td>
<td>Evidence-Based Medicine</td>
<td>3</td>
</tr>
<tr>
<td>PCTB514</td>
<td>Precision Medicine</td>
<td>3</td>
</tr>
<tr>
<td>PCTB515</td>
<td>Computational Science in Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>PCTB562</td>
<td>Principles of Environmental Health Studies</td>
<td>3</td>
</tr>
<tr>
<td>PCTB574</td>
<td>Case Studies in Biotech Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>PCTB516</td>
<td>Intro to Systemic Reviews and Meta-Analysis</td>
<td>3</td>
</tr>
<tr>
<td>PCTB564</td>
<td>Health Disparities and Population-Based Research</td>
<td>3</td>
</tr>
<tr>
<td>PCTB517</td>
<td>Outcomes in Patient-Oriented Studies</td>
<td>3</td>
</tr>
<tr>
<td>PCTB575</td>
<td>Cost-effectiveness in Scientific Research</td>
<td>3</td>
</tr>
<tr>
<td>PCTB541</td>
<td>Grant Writing in Human Health Research</td>
<td>3</td>
</tr>
<tr>
<td>PCTB563</td>
<td>Systems Biology and Human Health</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total credits for graduation** 102
Course Descriptions

PCTB 500: Foundations of Clinical and Translational Research. (3)

This course provides a high-level introduction to the clinical and translational aspects of research. This begins elaborating from the basic research (T0 translational research nomenclature) to carrying research in human populations (T1 to T5). The course also expands on the relevance to understand how the different T’s in Clinical and Translational Research overlap each other to contribute better patient care.

PCTB 510: Principles of Epidemiology. (3)

This course emphasizes the approaches and principles implemented in epidemiological studies in human populations. These include how to summarize and display epidemiological data and implement traditional statistical test to illustrate population health outcomes. Other topics covered in the course include disease prevalence, health risks, ratios, and implementing the Bradford-Hill criteria. It also covers study designs in epidemiological studies to investigate relationships between risk factors and health outcomes, and how epidemiological findings impact the different levels of decision-making in populations, including health care, screening, and policy.

PCTB 512: Statistics in Clinical and Translational Research. (3)

This course introduces the basic methods of statistics to design clinical and translational studies. Among the concepts covered in the course include the epicycles of statistical analysis, including elaborating the question, exploring and describe the data, elaborate models, and carry out inferences after implementing the models on the current or new datasets. The statistical tests discuss in the course address comparison of proportions, means, and medians; inter- and intra-group difference of variance; statistical analysis in paired and unpaired groups, and introduction to regression analysis.

PCTB 520: Research Design, Ethics, and Implementation. (3)

This course covers topics on the different phases of experimental design, developing a question, developing surveys, determine sampling strategies, and techniques and technologies to implement into the studies of both quantitative or qualitative nature. The course also compares the advantages and disadvantages of different qualitative and quantitative study designs, and how to integrate different quantitative and qualitative approaches in different studies. It also discusses the importance of research ethics and its implementation at different stages of a study.

PCTB 522: Regulatory Policies in Clinical and Translational Research. (3)

This course discusses the different policies and regulation in both clinical and translational research, including the rationale of its implementation and the events that lead to development of each policy and regulation. It also covers the governing agencies or organization in charge of implementing differing policies and regulation, and the procedures investigators and institutions must fulfill in each policy and regulation.

PCTB 530: Seminar in Clinical and Translational Research. (1)

This course provides an opportunity for students in search for relevant scientific literature in clinical and translational research to be presented to different audiences (lay and technical audiences). Different approaches on how to present a scientific talk and workshops, among others are discussed. It also
introduces the “elevator-talk” and the “1-minute pitch” strategies for students to practice concise speaking often implemented in networking events.

**PCTB 540: Strategies in Scientific Writing. (3)**

This course prepares students prior to engaging in writing the dissertation proposal. In this course, students also learn the purpose of each section within a peer-reviewed manuscript, strategies on how to write a peer-reviewed manuscript, and the different steps involved during a publication. Writing structure within a peer-reviewed manuscript is also discussed.

**PCTB 600: Comprehensive Exam and Preliminary Proposal. (8)**

The comprehensive exam integrates a series of questions (in verbal and oral formats) developed by the faculty mentor in collaboration with the dissertation committee. The preliminary proposal is the proposed research the student, in consultation with the faculty mentor and the dissertation committee, seeks to carry out during the dissertation. The student must pass the comprehensive exam, and successfully presents the preliminary proposal to the dissertation committee. Once both are passed, the student earns the title of Ph.D. candidate.

**PCTB 602: Dissertation (54)**

The dissertation represents the original scholarship activity of the Ph.D. candidate in consultation with the faculty mentor and the dissertation committee. Once the student has presented evidence that he successfully published at least 2 papers as a first author in a peer-reviewed journals and is co-authoring at least one additional paper in peer-reviewed journals and upon the approval of the dissertation committee, the students presents the scholarship activity to a public audience. A formal dissertation will be prepared and defended to a dissertation committee. The public presentation is then followed by a closed-door interview by the faculty mentor and dissertation committee.

**Elective Course Descriptions**

**PCTB 512: Advanced Epidemiological Methods. (3)**

Expands on the epidemiological knowledge from PCTB 510. It presents scenarios for students to evaluate the suitability of epidemiological methods for different population studies.

**PCTB 513: Genetic Epidemiology. (3)**

Integrates from PCTB 510 and 514 to design epidemiological studies addressing the genetics of different human diseases.


Introduces the principles and methods (including experimental design and laboratory methods) in the development of drugs human health interventions.

**PCTB 570: Intro to Clinical Informatics. (3)**
Covers and compares different health care systems, including how they were developed, modified, and currently being implemented.

PCTB 552: Introduction to Clinical Trials and Intervention Studies. (3)
Combines designing studies that integrated pharmaceutical, environmental health, and epidemiology to reduce incidence of a human disease or health outcome.

PCTB 560: Immunology and Toxicology. (3)
Describes the different immunological and toxicological approaches, including experimental design, in clinical and translational research studies.

PCTB 572: Evidence-Based Medicine. (3)
Discuss the interdisciplinary collaboration to diagnosis and therapy of human disease based on data gathered from previous studies and different experimental designs in basic sciences and clinical studies.

PCTB 514: Computational Sciences in Data Analysis. (3)
Integrates computational approaches and languages (e.g. R, SAS, Python) in the analysis of data generated in human health studies.

PCTB 515: Precision Medicine. (3)
Elaborates on the benefits of integrating computational approaches in the diagnosis and therapy of human disease.

PCTB 562: Principles of Environmental Health Studies. (3)
Describes the integration of exposure science and biomedical sciences to study environmental risk factors for human disease.

PCTB 574: Case Studies in Biotech Entrepreneurship. (3)
Presents case studies of the interplay between scientific discoveries and business to develop biotech companies.

PCTB 516: Intro to Systemic Reviews and Meta-Analysis. (3)
Describes the study designs to investigate the current knowledge within a scientific field or human health topic.

PCTB 564: Health Disparities and Population-Based Research. (3)
Discuss the study designs to evaluate how different non-biological factors affect diverse populations.

PCTB 517: Outcomes in Patient-Oriented Studies. (3)
Integrates epidemiology to evaluate prevalence and risks in patient-oriented studies.

PCTB 575: Cost-effectiveness in Scientific Research. (3)
Describes strategies to design cost-effective scientific projects, and how to manage budgets.
PCTB 541: Grant Writing in Human Health Research. (3)

Elaborates on the different aspects of grant writing and the how to write successful grant proposals.

PCTB 563: Systems Biology and Human Health. (3)

Describes experimental designs in system-based levels and how they are integrated in human health studies.
Master of Science, Biomedical Sciences

Program Objective

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:

- Analyze individual case studies and evaluate clinical treatments relative to biochemical, genetic, physical, and microbial diagnostics (*Critical Thinking*).
- 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*).
- Demonstrate collaboration by actively engaging in interdisciplinary local and global community outreach efforts for health promotion (*Communication, Professionalism*).
- Participate in health-related research and scholarship (*Professionalism*).
- Correlate principles of molecular and cellular immunology to selected health and disease states (*Critical Thinking, Communication*).
- Demonstrate technology skills to enhance overall lifelong learning through peer-reviewed publications (*Communication, Professionalism*).
- 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*).

Program Description

The Master’s 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: The program consists of 33 credit hours of didactic instruction plus a comprehensive final exam.

- Medical Track
- Pharmacy Track
- Dentistry 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).
Admissions

Admission Requirements

- Applicants must have 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.
- All applicants are required to submit an official standardized exam score such as GRE, MCAT, DAT, or PCAT.
- All applicants should have an undergraduate GPA of 2.7 or better on a 4.0 scale.
- Two recommendation letters: 2 basic science professors or 1 basic science professor and 1 medical sciences adviser/instructor/professor.
- Verified US residency/citizenship status if born other than in the US.
- Resume and a personal statement of education/professional goals.

Prerequisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology I and II (w/lab)</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry I and II (w/lab)</td>
<td>8</td>
</tr>
<tr>
<td>Organic Chemistry I and II (w/lab)</td>
<td>8</td>
</tr>
<tr>
<td>Physics I and II (w/lab)</td>
<td>8</td>
</tr>
<tr>
<td>Calculus or Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Advanced Sciences (Biochemistry, Molecular Biology, Anatomy and Physiology, Microbiology, Genetics)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Hours</strong></td>
<td><strong>38</strong></td>
</tr>
</tbody>
</table>

Admission Procedures

Applicants applying to our master’s-level program will apply online using the PostBacCAS application ([https://PostBacCAS.liaisoncas.com](https://PostBacCAS.liaisoncas.com)).

All following items will be submitted in the PostBacCas application:

- Completed Application
- Resume
- Personal Statement
- Photo ID
- Letters of recommendation
- Prerequisites
- Exam scores (GRE, MCAT, DAT or PCAT)
Exam scores will be entered manually into PostBacCAS, but will also need to be released to our institution or sent to our address:

Larkin University COBS
18301 N. Miami Avenue
Miami, FL 33169

All Official Transcripts will need to be sent to:

PostBacCas Transcript Processing Center
P.O. Box 9209
Watertown, MA 02471

Schedule of Application for Admissions Cycle

The College of Biomedical Sciences 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.

Tuition and Fees

<table>
<thead>
<tr>
<th>Service</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Credit MS Biomedical Sciences</td>
<td>$770.00</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/Access 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>Late Registration</td>
<td>$100.00</td>
</tr>
<tr>
<td>Application Fee (Non-refundable)</td>
<td>$50.00</td>
</tr>
<tr>
<td>Deposit (Counts towards tuition)</td>
<td>$500.00</td>
</tr>
</tbody>
</table>

*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 are not refundable.
**Refund Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Through the end of the drop/add period: 100% tuition and fees</td>
</tr>
<tr>
<td>2</td>
<td>75% tuition refunded, no fees refunded</td>
</tr>
<tr>
<td>3</td>
<td>50% tuition refunded, no fees refunded</td>
</tr>
<tr>
<td>4</td>
<td>25% tuition refunded, no fees refunded</td>
</tr>
<tr>
<td>5</td>
<td>0% tuition refunded, all students who withdraw will be charged a $75 withdrawal fee</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.
<table>
<thead>
<tr>
<th>Academic Calendar</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUMMER 2018</strong></td>
</tr>
<tr>
<td>Registration Opens</td>
</tr>
<tr>
<td>New Faculty Orientation</td>
</tr>
<tr>
<td>Classes Begin</td>
</tr>
<tr>
<td>Drop/Add Period</td>
</tr>
<tr>
<td>Memorial Day Holiday</td>
</tr>
<tr>
<td>July 4th Holiday</td>
</tr>
<tr>
<td>Classes End</td>
</tr>
<tr>
<td>Final Exams</td>
</tr>
<tr>
<td>Commencement</td>
</tr>
<tr>
<td><strong>FALL 2018</strong></td>
</tr>
<tr>
<td>Registration Opens</td>
</tr>
<tr>
<td>New Faculty Orientation</td>
</tr>
<tr>
<td>Student Orientation</td>
</tr>
<tr>
<td>Classes Begin</td>
</tr>
<tr>
<td>Drop/Add Period</td>
</tr>
<tr>
<td>Labor Day Holiday</td>
</tr>
<tr>
<td>Thanksgiving Break</td>
</tr>
<tr>
<td>Classes End</td>
</tr>
<tr>
<td>Final Exams</td>
</tr>
<tr>
<td>Commencement</td>
</tr>
<tr>
<td><strong>SPRING 2019</strong></td>
</tr>
<tr>
<td>Registration Opens</td>
</tr>
<tr>
<td>New Faculty Orientation</td>
</tr>
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<tr>
<td>Classes End</td>
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<tr>
<td>Final Exams</td>
</tr>
</tbody>
</table>
FALL 2019
Registration Opens
New Faculty Orientation
Student Orientation
Classes Begin
Drop/Add Period
Labor Day Holiday
Thanksgiving Break
Classes End
Final Exams
Commencement
Friday, August 12
Friday, August 23
Friday, August 23
Monday, August 26
Mon-Wed, August 26-30
Monday, September 2*
Wed-Fri, Nov. 27-29*
Friday, December 6
Mon-Fri, December 9-13
TBA

FALL 2020
Registration Opens
New Faculty Orientation
Student Orientation
Classes Begin
Drop/Add Period
Labor Day Holiday
Thanksgiving Break
Classes End
Final Exams
Commencement
Friday, August 10
Friday, August 21
Friday, August 21
Monday, August 24
Mon-Wed, August 24-28
Monday, September 7*
Wed-Fri, Nov. 25-27*
Friday, December 4
Mon-Fri, December 7-11
TBA

Makeup Days for Academic Year 2018-2019 (*indicates required Makeup Day)
MLK Holiday Monday January 15, 2018*  Makeup, Friday Jan 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
Labor Day Holiday Monday September 3, 2018* Makeup, Friday, Sept 7, 2018
Thanksgiving Break Wednesday-Fri, Nov. 21-23, 2018* Makeup, Friday Nov 30, 2018
Academics

Definition of a 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.
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.

<table>
<thead>
<tr>
<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>
</tr>
<tr>
<td>91-92%</td>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>89-90%</td>
<td>B+</td>
<td>3.3</td>
</tr>
<tr>
<td>85-88%</td>
<td>B</td>
<td>3.0</td>
</tr>
<tr>
<td>83-84%</td>
<td>B-</td>
<td>2.7</td>
</tr>
<tr>
<td>81-82%</td>
<td>C+</td>
<td>2.3</td>
</tr>
<tr>
<td>77-80%</td>
<td>C</td>
<td>2.0</td>
</tr>
<tr>
<td>75-76%</td>
<td>F</td>
<td>1.3</td>
</tr>
<tr>
<td>69-72%</td>
<td>F</td>
<td>1.0</td>
</tr>
<tr>
<td>67-68%</td>
<td>F</td>
<td>0.7</td>
</tr>
<tr>
<td>0-66%</td>
<td>F</td>
<td>0.00</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: * Converts to grade of F if no grade entered by end of two weeks

Repeated Course

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 or 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 computed into the final grade average for the course and into the CGPA.

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 2.0 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 2.0 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.

Recording of Final Grades

All course grades will be recorded as a letter grade in CampusNexus. Each transcript will report the letter grade earned in the course.

Grade Appeals

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 Academic Advisor.

b. In the event that the grievance is not settled with the faculty member, the student must write a letter to the Academic Coordinator 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 Academic Coordinator will make an informal investigation, hearing both the student and the faculty member, and attempt an informal reconciliation. The Academic Coordinator 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.
Recognition of Honors

The top 10% of students each semester (non-cumulative) will be included in the Dean’s List.

Satisfactory Academic Progression

To maintain satisfactory progress in the M.S. in Biomedical Sciences, 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 2.0 GPA by the end of the student's second term of enrollment and all subsequent terms. (Grades for classes that were transferred from another school are shown as “T” on the transcript and will not be used in computing the student’s grade point average.)
- The student must pass a comprehensive exam (with 70% grade) to be administered after all required courses are satisfactory. The student has three opportunities to pass the comprehensive exam.
- 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

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.
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.

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 or 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.

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.

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:

The faculty member will send an Academic Dishonesty Form to the student’s Dean and Advisor.

The Dean will inform the student in writing that these forms have been sent.

Graduation Requirements

The following are the requirements for graduation for students expecting to graduate at the end of any semester term from the Larkin University College of Biomedical Sciences:

- Must meet specified academic requirements (i.e., GPA) for graduation for the specific program;
- Complete all degree requirements specified for the appropriate degree program;
- 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.

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.

**Advising**

All students of the M.S. in Biomedical Sciences program 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.

**Clinical Shadowing**

To be eligible to shadow at our partner hospitals, the documents below need be submitted to The office of Admissions and Student Services.

- Legible copy of social security card and driver’s license
- A background level II check must be done with Fingerprints which can be can be accepted up to 5 years old.
- PPD or chest X-Ray (not older than a year)

**Immunization records form**

- MMR – Measles, Mumps, and Rubella Varicella – Chicken Pox Vaccine Hepatitis A and/or Hepatitis B Diphtheria / Tetanus
- Flu Vaccine

Hospital Online Orientation must be completed. Must complete Orientation Packet, print and turn in.

**Student Organizations**

The College of Biomedical Sciences encourages students to become involved with professional and social student organizations as a means of developing leadership skills and professional networking opportunities. Opportunities for involvement are introduced to incoming students during Orientation each year.

The College of Biomedical Sciences support student-driven activities and clubs such as; the Biomed Pre-Health Club, scientific research projects, community service organizations, and special interest or social organizations. In addition to participation in student organizations, students will be required to complete clinical shadowing hours at hospitals, local clinics or doctor offices. Students are also encouraged to participate in volunteer and community service activities and to take advantage of special events and speakers on campus.
## 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>
</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>MSB511</td>
<td>Immunology &amp; Medical Microbiology I</td>
<td>3</td>
</tr>
<tr>
<td>MSB512</td>
<td>Medical Microbiology II</td>
<td>3</td>
</tr>
<tr>
<td>MSB520</td>
<td>Molecular Genetics</td>
<td>4</td>
</tr>
<tr>
<td>MSB530</td>
<td>Neuroscience and Neuroanatomy</td>
<td>4</td>
</tr>
<tr>
<td>MSB589</td>
<td>Professional Development Seminar</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

**Medical Track (Core plus 12 Credit Hours)**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Titles</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSB540</td>
<td>Pathophysiology</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><strong>Total</strong></td>
<td></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

**Dental Track (Core plus 12 Credit Hours)**

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Titles</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSB570</td>
<td>General Dentistry</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><strong>Total</strong></td>
<td></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>
### Pharmacy Track (Core plus 12 credits)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Titles</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSB590</td>
<td>Thesis</td>
<td>4</td>
</tr>
<tr>
<td>MSPH501</td>
<td>Foundations in Pharmaceutical Sciences</td>
<td>4</td>
</tr>
<tr>
<td>MSPH502</td>
<td>Introduction to Clinical Pharmacy</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

### Research Track (Core plus 11 Credits)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Titles</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSB590</td>
<td>Thesis</td>
<td>4</td>
</tr>
<tr>
<td>MSB591</td>
<td>Research 1</td>
<td>4</td>
</tr>
<tr>
<td>MSB592</td>
<td>Research 2</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

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 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 bio-chemistry 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

Program Objective

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).

Program Description

The Master’s 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.

Admissions

Admission Requirements

- 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.
- All applicants for the master’s degree should have an undergraduate GPA of 3.0 or better on a 4.0 scale.
- Required Pre-requisite courses: 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.
- All applicants for the master’s degree are required to submit an official Graduate Record Examination (GRE) score or a United States Medical Licensing Examination (USMLE) Step 1 score. Other standardized test scores (MCAT, DAT, VAT, and PCAT) may be substituted for the GRE.
- Two recommendation letters from a basic or medical sciences professor.
- A resume and a personal statement of educational/professional goals.
**Prerequisites**

- 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

**Schedule of Application for Admissions Cycle**

The College of Biomedical Sciences 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.

**Tuition and Fees**

<table>
<thead>
<tr>
<th>Item</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Credit MS Clinical Anatomy</td>
<td>$ 770.00</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/Access 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>Late Registration</td>
<td>$ 100.00</td>
</tr>
<tr>
<td>Application Fee (Non-refundable)</td>
<td>$ 50.00</td>
</tr>
<tr>
<td>Deposit (Counts towards tuition)</td>
<td>$ 500.00</td>
</tr>
</tbody>
</table>

*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 are not refundable.
**Refund Schedule**

<table>
<thead>
<tr>
<th>Week</th>
<th>Refund Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Through the end of the drop/add period: 100% tuition and fees</td>
</tr>
<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, all students who withdraw will be charged a $75 withdrawal fee</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.

**Academics**

**Definition of a 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
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<tbody>
<tr>
<td>93-100%</td>
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<td>91-92%</td>
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<tr>
<td>89-90%</td>
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<td>75-76%</td>
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<td>67-68%</td>
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</tr>
<tr>
<td>0-66%</td>
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**Satisfactory**
Not Computed

**Unsatisfactory**
Not Computed

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Note</th>
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<tbody>
<tr>
<td>Withdrawal/Prior to 50% completion</td>
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<tr>
<td>Withdrawal/After to 50% completion</td>
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<td></td>
</tr>
<tr>
<td>Withdrawal/Non Attendance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Converts to grade of F if no grade entered by end of two weeks*

**Repeated Course**

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 or 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 computed into the final grade average for the course and into the CGPA.

**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 2.0 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 2.0 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.

**Recording of Final Grades**

All course grades will be recorded as a letter grade in CampusNexus. Each transcript will report the letter grade earned in the course.

**Grade Appeals**

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 Academic Advisor.

b. In the event that the grievance is not settled with the faculty member, the student must write a letter to the Academic Coordinator 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 Academic Coordinator will make an informal investigation, hearing both the student and the faculty member, and attempt an informal reconciliation. The Academic Coordinator 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.

**Recognition of Honors**

The top 10% of students each semester (non-cumulative) will be included in the Dean’s List.
Satisfactory Academic Progression

To maintain satisfactory progress in the M.S. in Clinical Anatomy, 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 2.0 GPA by the end of the student's second term of enrollment and all subsequent terms. (Grades for classes that were transferred from another school are shown as “T” on the transcript and will not be used in computing the student’s grade point average.)
- The student must pass a comprehensive exam (with 70% grade) to be administered after all required courses are satisfactory. The student has three opportunities to pass the comprehensive exam.
- 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

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.
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 un-authorized copying of software and the violation of copyright laws.

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 or 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.

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.

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:

The faculty member will send an Academic Dishonesty Form to the student’s Dean and Advisor.

The Dean will inform the student in writing that these forms have been sent.

Graduation Requirements

The following are the requirements for graduation for students expecting to graduate at the end of any semester term from the Larkin University College of Biomedical Sciences:

- Must meet specified academic requirements (i.e., GPA) for graduation for the specific program;
- Complete all degree requirements specified for the appropriate degree program;
- 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.

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 Clinical Anatomy degree. Courses with F grades must be repeated and replaced with grades of B or better.

Advising

All students of the M.S. in Biomedical Sciences program 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.

Clinical Shadowing

To be eligible to shadow at our partner hospitals, the documents below need be submitted to The office of Admissions and Student Services.

- Legible copy of social security card and driver’s license
- A background level II check must be done with Fingerprints which can be can be accepted up to 5 years old.
- PPD or chest X-Ray (not older than a year)

Immunization records form

- MMR – Measles, Mumps, and Rubella Varicella – Chicken Pox Vaccine Hepatitis A and/or Hepatitis B Diphtheria / Tetanus
- Flu Vaccine

Hospital Online Orientation must be completed. Must complete Orientation Packet, print and turn in.

Student Organizations

The College of Biomedical Sciences encourages students to become involved with professional and social student organizations as a means of developing leadership skills and professional networking opportunities. Opportunities for involvement are introduced to incoming students during Orientation each year.

The College of Biomedical Sciences support student-driven activities and clubs such as; the Biomed Pre-Health Club, scientific research projects, community service organizations, and special interest or social organizations. In addition to participation in student organizations, students will be required to complete clinical shadowing hours at hospitals, local clinics or doctor offices. Students are also encouraged 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 Titles</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>MCA530</td>
<td>Neuroanatomy with Surgical Techniques</td>
<td>6</td>
</tr>
<tr>
<td>MCA550</td>
<td>Human Anatomy with Surgical Techniques</td>
<td>7</td>
</tr>
<tr>
<td>MCA560</td>
<td>Cardio Anatomy &amp; Physiology</td>
<td>4</td>
</tr>
<tr>
<td>MCA591</td>
<td>Research 1</td>
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<tr>
<td>MCA592</td>
<td>Research 2</td>
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<td>MSB600</td>
<td>Thesis</td>
<td>CR/NC*</td>
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**Electives (Select 9 credit hours from the following)**

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<thead>
<tr>
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<tr>
<td>MSB501</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>
<tr>
<td>MSB511</td>
<td>Immunology/Intro to Med Microbiology</td>
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<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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<td>MSB560</td>
<td>Human Physiology</td>
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<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><strong>Total</strong></td>
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<td><strong>36</strong></td>
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</table>
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

Program Objective

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).

Program Description

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.

Admissions

Admission Requirements

- 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.
- All applicants for the master’s degree should have an undergraduate GPA of 3.0 or better on a 4.0 scale.
- Required Pre-requisite courses: 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.
- All applicants for the master’s degree are required to submit an official Graduate Record Examination (GRE) score or a United States Medical Licensing Examination (USMLE) Step 1 score. Other standardized test scores (MCAT, DAT, VAT, and PCAT) may be substituted for the GRE.
- Two recommendation letters from a basic or medical sciences professor.
- A resume and a personal statement of educational/professional goals.
Prerequisites

- 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

Schedule of Application for Admissions Cycle

The College of Biomedical Sciences 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.

Tuition and Fees

<table>
<thead>
<tr>
<th>Service</th>
<th>Fee</th>
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<tbody>
<tr>
<td>Per Credit MS Clinical Cellular and Molecular Biology</td>
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<td>Tuition Late Payment</td>
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<td>Returned Check</td>
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<td>Lost I.D. Card/Access Card</td>
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<tr>
<td>Transcript, each Official</td>
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<td>Health Insurance</td>
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<td>Late Registration</td>
<td>$100.00</td>
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<td>Application Fee (Non-refundable)</td>
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<tr>
<td>Deposit (Counts towards tuition)</td>
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</table>

*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 are not refundable.
## Refund Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Refund Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Through the end of the drop/add period: 100% tuition and fees</td>
</tr>
<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, all students who withdraw will be charged a $75 withdrawal fee</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.

## Definition of a 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 hour
- 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.
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>Letter</th>
<th>Quality Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage Score</td>
<td></td>
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* Converts to grade of F if no grade entered by end of two weeks

Repeated Course

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 or 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 computed into the final grade average for the course and into the CGPA.

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 2.0 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 2.0 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.

Recording of Final Grades

All course grades will be recorded as a letter grade in CampusNexus. Each transcript will report the letter grade earned in the course.

Grade Appeals

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 Academic Advisor.

b. In the event that the grievance is not settled with the faculty member, the student must write a letter to the Academic Coordinator 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 Academic Coordinator will make an informal investigation, hearing both the student and the faculty member, and attempt an informal reconciliation. The Academic Coordinator 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.

Recognition of Honors

The top 10% of students each semester (non-cumulative) will be included in the Dean’s List.
Satisfactory Academic Progression

To maintain satisfactory progress in the M.S. in Clinical Cellular and Molecular Biology, 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 2.0 GPA by the end of the student's second term of enrollment and all subsequent terms. (Grades for classes that were transferred from another school are shown as “T” on the transcript and will not be used in computing the student’s grade point average.)
- The student must pass a comprehensive exam (with 70% grade) to be administered after all required courses are satisfactory. The student has three opportunities to pass the comprehensive exam.
- 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

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.
**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 un-authorized copying of software and the violation of copyright laws.

**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 or 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.

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.

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:

The faculty member will send an Academic Dishonesty Form to the student’s Dean and Advisor.

The Dean will inform the student in writing that these forms have been sent.

**Graduation Requirements**

The following are the requirements for graduation for students expecting to graduate at the end of any semester term from the Larkin University College of Biomedical Sciences:

- Must meet specified academic requirements (i.e., GPA) for graduation for the specific program;
- Complete all degree requirements specified for the appropriate degree program;
- 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.

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 Clinical Cellular and Molecular Biology degree. Courses with F grades must be repeated and replaced with grades of B or better.

Advising

All students of the M.S. in Biomedical Sciences program 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.

Clinical Shadowing

To be eligible to shadow at our partner hospitals, the documents below need be submitted to The office of Admissions and Student Services.

- Legible copy of social security card and driver’s license
- A background level II check must be done with Fingerprints which can be can be accepted up to 5 years old.
- PPD or chest X-Ray (not older than a year)

Immunization records form

- MMR – Measles, Mumps, and Rubella
- Varicella – Chicken Pox
- Vaccine
- Hepatitis A and/or
- Hepatitis B
- Diphtheria / Tetanus
- Flu Vaccine

Hospital Online Orientation must be completed. Must complete Orientation Packet, print and turn in.

Student Organizations

The College of Biomedical Sciences encourages students to become involved with professional and social student organizations as a means of developing leadership skills and professional networking opportunities. Opportunities for involvement are introduced to incoming students during Orientation each year.

The College of Biomedical Sciences support student-driven activities and clubs such as; the Biomed Pre-Health Club, scientific research projects, community service organizations, and special interest or social organizations. In addition to participation in student organizations, students will be required to complete clinical shadowing hours at hospitals, local clinics or doctor offices. Students are also encouraged to participate in volunteer and community service activities and to take advantage of special events and speakers on campus.
## Course of Study

### Curriculum Outline

#### Thesis Track

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Course Hours</th>
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<tr>
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<td>Laboratory Techniques &amp; Equipment</td>
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<tr>
<td>MSB501</td>
<td>Biochemistry 1</td>
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<tr>
<td>MSB511</td>
<td>Immunology/Intro to Med Micro</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>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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#### Non-thesis Track

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<td>Immunology/Intro to Med Micro</td>
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<td>DNA, RNA and Immunological Methods</td>
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</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 bio-chemistry 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.

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.
College of Health Sciences

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 healthcare 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)

Associate of Science, Diagnostic Medical Sonography

Program Objective

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.

Program Description

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).
Admissions

Admission Requirements

- Submit a high school diploma or a General Education Development (GED) test score
- Submit a complete admissions application.
- Submit a $100 nonrefundable Application Fee.
- Submit an updated resume.
- Provide a copy of valid government issued ID

Admission Procedures

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.

Graduation 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.
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>ENC101</td>
<td>English Composition I*</td>
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<tr>
<td>MAC105</td>
<td>College Algebra I*</td>
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<tr>
<td>PHY202</td>
<td>General Physics</td>
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<tr>
<td>PSY260</td>
<td>Introduction to Psychology*</td>
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</tr>
<tr>
<td>MAC210</td>
<td>College Algebra II*</td>
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<td>SON124</td>
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<td>Small Parts Sonography</td>
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<td>SON180</td>
<td>Practical Aspects of Sonography I</td>
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</table>
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

Program Objective

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.

Program Description

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.

Admissions

Admission Requirements

- Submit a High School Diploma or a GED.
- Submit a complete Admissions Application.
- Submit a $100 Nonrefundable Application Fee.
- Submit an Updated Resume.
- Copy of valid Government Issued ID

Prerequisites

Admission Procedures

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.
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<tr>
<td>ENC101</td>
<td>English Composition I*</td>
<td>3</td>
</tr>
<tr>
<td>MAC105</td>
<td>College Algebra I*</td>
<td>3</td>
</tr>
<tr>
<td>STA202</td>
<td>Statistics*</td>
<td>3</td>
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<tr>
<td>PSY260</td>
<td>Introduction to Psychology*</td>
<td>3</td>
</tr>
<tr>
<td>MAC210</td>
<td>College Algebra II*</td>
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<tr>
<td>BSC285</td>
<td>Anatomy and Physiology I</td>
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<td>RAD101</td>
<td>Introduction to Radiologic Technology</td>
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<td>MTR105</td>
<td>Medical Terminology</td>
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<td>RAD116</td>
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<tr>
<td>RAD210</td>
<td>Radiologic Procedures III</td>
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<tr>
<td>PHY150</td>
<td>Imaging Physics</td>
<td>3</td>
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<tr>
<td>RAD170</td>
<td>Image Analysis</td>
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<tr>
<td>RAD170L</td>
<td>Image Analysis Lab</td>
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<tr>
<td>RAD180</td>
<td>Advance Medical Imaging</td>
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<tr>
<td>RAD180L</td>
<td>Advance Medical Imaging Lab</td>
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<tr>
<td>RAD190</td>
<td>Radiation Biology &amp; Protection</td>
<td>3</td>
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<tr>
<td>RAD200</td>
<td>Clinical Practicum I</td>
<td>3</td>
</tr>
<tr>
<td>RAD280</td>
<td>Clinical Practicum II</td>
<td>3</td>
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<tr>
<td>RAD130</td>
<td>Radiologic Equipment</td>
<td>3</td>
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<tr>
<td>RAD140</td>
<td>Radiologic Exposures</td>
<td>3</td>
</tr>
<tr>
<td>RAD160</td>
<td>Radiologic Pathology</td>
<td>3</td>
</tr>
<tr>
<td>RAD195</td>
<td>Radiologic Science</td>
<td>3</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>73</strong></td>
</tr>
</tbody>
</table>
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 area hospitals 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.

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

Core Values
- Learner Centered
- Accountability
- Scholarship
- Social Justice
- Professionalism
- Collaboration
- Excellence

Administration
Gary M. Levin, Pharm.D., BCPP, FCCP  Dean, College of Pharmacy
Kenneth C. Jackson, Pharm.D., CPE  Senior Associate Dean for Academic Affairs
Sandra Benavides, Pharm.D., FCCP, FPPAG  Associate Dean for Assessment & Accreditation
Lynne Arric, M.S., Ed.D.  Assistant Dean of Student Affairs & Admissions
Kathleen Jodoin, Pharm.D., BCPS  Assistant Dean of Experiential Education
Subrata Deb, PhD  Interim 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)
Doctor of Pharmacy (Pharm.D.)

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. Basic and skills-based laboratories will complement didactic in-class activities where applicable. There will be daily formative assessment tools to determine formative outcomes and every other week there will be a summative assessment of the material from the block.

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.

There will also be end of semester summative assessments (ESAs).

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>
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<tbody>
<tr>
<td>Week 1</td>
<td>Reassessment from previous</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>
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<td></td>
<td>block if necessary</td>
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<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.

Program Learning Outcomes

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:

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.

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:

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).

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.

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.

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.

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:

Problem solving – The graduate is able to identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution.
**Education** – The graduate is able to educate all audiences by determining the most effective and enduring ways to impart information and assess learning.

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

**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.

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

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

**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:**

**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.

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

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

**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.*

**Admissions**

**Admission Requirements**

- Completion of 63 semester credit hours of prerequisite coursework with a preferred 2.7 overall GPA on a 4.0 scale
- Preferred PCAT score of 50th percentile composite
- Two letters of recommendation
- Dean’s Letter (only for students who have previously attended a pharmacy program)
- Personal statement
- If selected, an on-site interview
- Criminal background check and drug screening, if admitted
## Prerequisites

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>General Biology I and II (with lab)</td>
<td>8</td>
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<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>
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<tr>
<td>General Physics</td>
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<tr>
<td>English</td>
<td>6</td>
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<tr>
<td>Calculus</td>
<td>3</td>
</tr>
<tr>
<td>Statistics</td>
<td>3</td>
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<tr>
<td>Speech/Public Speaking</td>
<td>3</td>
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<tr>
<td>Advanced Sciences (such as cellular or molecular biology, microbiology, biochemistry, or genetics)</td>
<td>6</td>
</tr>
<tr>
<td>Humanities or Social/Behavioral Science</td>
<td>3</td>
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<tr>
<td>Psychology</td>
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<tr>
<td><strong>Total Hours</strong></td>
<td><strong>63</strong></td>
</tr>
</tbody>
</table>

1. The College of Pharmacy only accepts completion of coursework with a grade of C- or better. Any courses in which you received a D+, D, or D- must be retaken.
2. At this time, the College of Pharmacy only accepts pre-requisite coursework from regionally accredited U.S. institutions. Coursework taken at Foreign Institutions will not be accepted, however, any foreign institutions attended must be listed in your PharmCAS application.
3. Prospective students that previously attended a pharmacy program, a Dean’s Letter, directly to the Office of Admissions is required to be submitted.
4. All required pre-requisite coursework is based on semester credit hours. If your institution uses a quarter system, please note that 1 semester hour equals 1.5 quarter hours, or 1 quarter hour equals .6667 semester hours. To convert semester hours into quarter hours, divide the quarter credit hours by 1.5 or multiply the semester credit hours by 0.6667.
Admission Procedures

The procedure for applying for admission to Larkin University Doctor of Pharmacy program is as follows;

1. Complete the application through PharmCAS and indicate that your application should be sent to Larkin University College of Pharmacy
2. Submit official PCAT scores PharmCAS. We will accept PCAT scores up to five (5) years old.

Schedule of Application for 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>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</td>
<td>PharmCAS deadline to complete application</td>
</tr>
<tr>
<td>June</td>
<td>Pre-requisites must be completed</td>
</tr>
<tr>
<td>August</td>
<td>Final transcripts due to Office of Admissions</td>
</tr>
<tr>
<td>August</td>
<td>Orientation Week</td>
</tr>
<tr>
<td>August</td>
<td>First day of class</td>
</tr>
</tbody>
</table>

Early Decision

Larkin College of Pharmacy also participates in the PharmCAS Early Decision Program. In addition to completing the PharmCAS application, you must arrange for PharmCAS to receive all of your official transcripts and fees by the deadline. If your application, transcripts, or fee arrive after the deadline, PharmCAS will automatically change your file from early decision status to regular status.

Important Note:

You may be offered early admission, denied admission, or deferred to regular applicant status. If you are offered admission as an Early Decision applicant, you must accept the offer and you will not be permitted to apply to other PharmCAS Pharm.D. programs during the current admission cycle. If, however, you are denied admission as an Early Decision applicant, you may apply to other Pharm.D. programs for an additional fee. Refer to the PharmCAS application fee schedule to determine the cost to apply to each additional program. Pharm.D. programs will make admission decisions on early decision applicants by October of the given year.

Regular Decision

The Admissions Committee of the College of Pharmacy will review completed applications on a regular basis. The initial review of completed applications will determine whether to invite the applicant for an on-campus interview.
- The initial review decision will be communicated to the applicant by email within five (5) business days of the Admissions Committee meeting.
- 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 evaluations for each applicant to determine admissions status to the Doctor of Pharmacy program.
- The applicant will be notified of the committee’s decision within seven (7) business days following the Admissions Committee meeting.
- 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.

### Tuition and Fees

<table>
<thead>
<tr>
<th></th>
<th>Tuition &amp; Fees</th>
<th><strong>Miscellaneous Costs</strong></th>
<th>Total Fall/Sp/Sum COA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2018 – <em>Tuition $18,197</em></td>
<td>$22,737.00</td>
<td>$11,420.00</td>
<td>$34,157.00</td>
</tr>
<tr>
<td><em>Mandatory Fees $4,540</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spring (Sp) 2019</td>
<td>$18,197.00</td>
<td>$11,420.00</td>
<td>$29,617.00</td>
</tr>
<tr>
<td>Summer (Sum) 2019</td>
<td>$9,098.00</td>
<td>$5,710.00</td>
<td>$14,808.00</td>
</tr>
<tr>
<td>Total</td>
<td><strong>$50,032.00</strong></td>
<td><strong>$28,550.00</strong></td>
<td><strong>$78,582.00</strong></td>
</tr>
</tbody>
</table>

*All mandatory fees due in the fall 2018; COA=Cost of Attendance*

**Costs indirectly related to your education, such as an estimate for housing, food/household supplies, transportation and personal miscellaneous expenses**
Refund Policy

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. Refunds will be made within 30 days. Application fees, late fees, and research fees are not refundable.

Refund Schedule

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Prior to Assessment Friday</th>
<th>Refund Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&amp;2</td>
<td>100% tuition and fees</td>
<td></td>
</tr>
<tr>
<td>3&amp;4</td>
<td>75% tuition refunded</td>
<td></td>
</tr>
<tr>
<td>5&amp;6</td>
<td>50% tuition refunded</td>
<td></td>
</tr>
<tr>
<td>7&amp;8</td>
<td>25% tuition refunded</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0% tuition refunded</td>
<td></td>
</tr>
</tbody>
</table>

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. The student must also meet with the Director of Financial Services to determine any financial liability created by withdrawal prior to the end of the term.
### Academic Calendar

**FALL 2018**

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instruction begins</td>
<td>Tuesday, August 7</td>
</tr>
<tr>
<td>Labor Day</td>
<td>Monday, September 3</td>
</tr>
<tr>
<td>Thanksgiving break</td>
<td>Wednesday–Friday, November 21-23</td>
</tr>
<tr>
<td>Instruction ends</td>
<td>Tuesday, November 27</td>
</tr>
<tr>
<td>Dead Days/Make-Up Days</td>
<td>Wednesday-Thursday, November 28-29; Wednesday-Friday, December 5-7</td>
</tr>
<tr>
<td>End of Semester Assessment/Remediation Week</td>
<td>Monday-Friday, December 10-14</td>
</tr>
<tr>
<td>Winter break (P1 and P2 Students)</td>
<td>Saturday–Monday, December 15–January 7</td>
</tr>
<tr>
<td>New Year’s holiday</td>
<td>Monday, January 1</td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>----------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td><strong>SPRING 2019</strong></td>
<td></td>
</tr>
<tr>
<td>Instruction Begins</td>
<td>Tuesday, January 8</td>
</tr>
<tr>
<td>MLK Jr. holiday</td>
<td>Monday, January 14</td>
</tr>
<tr>
<td>Spring Break</td>
<td>Monday-Friday, March 4-8</td>
</tr>
<tr>
<td>Instruction Ends</td>
<td>Friday, May 3</td>
</tr>
<tr>
<td>End of Semester Assessment/Remediation Week</td>
<td>Monday-Friday, May 6-10</td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUMMER 2019</strong></td>
<td></td>
</tr>
<tr>
<td>Memorial Day holiday</td>
<td>Monday, May 27</td>
</tr>
<tr>
<td>Instruction Begins</td>
<td>Tuesday, May 28</td>
</tr>
<tr>
<td>Independence Day holiday</td>
<td>Thursday, July 4</td>
</tr>
<tr>
<td>Instruction Ends</td>
<td>Friday, July 19</td>
</tr>
<tr>
<td>End of Semester Assessment/Remediation Week</td>
<td>Monday-Friday, July 22-26</td>
</tr>
<tr>
<td>Summer Break</td>
<td>Monday-Monday, July 29 - August 5</td>
</tr>
</tbody>
</table>

*Please note: Holiday- Classes are not in session, administrative offices are closed. Break- Classes are not in session, administrative offices are open.*
Academics

Definition of a Unit of Credit

- 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)

Grade Reports

All course grades will be recorded as a percentage in CampusNexus. Each transcript will report the percent earned in the course.

Grading System

Block Didactic Courses
The course grade for block didactic course is dependent solely upon the summative assessment. The minimum score to demonstrate competency is 80%. The maximum grade that can be achieved on the summative assessment is 100% (despite 5% added if a group scores greater than 95%). If a student does not achieve competency on the summative assessment, the student will be provided an opportunity to reassess. The maximum grade that can be obtained on reassessment is an 89%. This is to prohibit students from not putting full effort on the summative assessment and putting full effort on the reassessment. This will also allow differentiation between students who pass with a high score on summative assessment versus those who score a high score on the reassessment. Lastly, students who do not achieve competency on the reassessment and enter remediation will have the ability to obtain a maximum score of 80%. Until the student passes remediation, the score obtained at reassessment will be posted in Canvas and Campus Nexus.

Longitudinal Didactic Courses
The course grade for longitudinal didactic courses can be a combination of the summative assessment and other required assessment(s) (e.g., presentation, communication simulation). Each component in the course should have the specific percentage of the course grade indicated in the respective course syllabus. Students must achieve an overall 80% competency to successfully complete the course. Each individual assignment may have a required passing score. If the student does not achieve competency on a specific assignment they may have the opportunity to reassess and remediate. For students that do not achieve an overall competency in the course, the student will have the opportunity to reassess by the means of a comprehensive summative reassessment, which requires an 80% to achieve competency. If students do not achieve competency in the reassessment of the comprehensive summative reassessment the student will enter remediation. The maximum grade a student can obtain in remediation is 80% on the portion that required remediation.

Introductory Pharmacy Practice Experiences (IPPE)
The course grade for IPPE courses are a combination of rotation assignment completion and preceptor evaluations. IPPE grades are pass/fail.
Advance Pharmacy Practice Experiences (APPE)
The course grade for APPE courses are a combination of rotation assignment completion and preceptor evaluations. APPE grades are percentage based. The highest percentage that can be achieved in an APPE is a 100%. In order to successfully pass an APPE, students must earn a minimum of 80%.

Electronic Portfolio
The Electronic Portfolio will serve to assess Program Learning Outcomes that encompass professional skills and personal attributes of the practice of pharmacy. The Electronic Portfolio will document professional and personal development throughout the pharmacy program. Each semester, a variety of assignments will be required (indicated in individual course, experiential, or e-portfolio syllabi) to be uploaded into the electronic portfolio and will be an assessment of Student Learning Outcomes (SLO) and ultimately Program Learning Outcomes (PLO). The Electronic Portfolio allows students to showcase artifacts of learning and professional growth to preceptors and future employers. No credit is assigned to the electronic portfolio. However, all required components must be completed at the level of competency to successfully progress through the program.

Repeated Course
Students in the COP are not allowed to take a course once they have successfully achieved competency.

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 replaced 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 the semester that the course is in, a grade of “F” will be assigned and completed into the final grade average for the course and into the CGPA.

Grade Appeals

Didactic Coursework
All students will be required to attend the summative assessment review session which will take place the afternoon (typically Friday for block courses) after the assessment. Students will have the opportunity to discuss the questions and the correct answers with the appropriate faculty. By the end of the review session, the assessment scores will be final. No appeals will be considered for the summative assessment.

Grades for the reassessment and remediation may be appealed within 1 business day of posting of the grade by means of an email communication addressed to the faculty, with the Course Director copied on the communication. The grades for the reassessment and remediation are appealed for individual questions only. The student must include details that include why the student believes the correct answer is not the only correct answer with support by information provided in the course, required or recommended reading. The Course Director must respond with a decision about the appeal within one business day. The student can appeal the decision of the Course Director to the Assistant/Associate Dean for Academic Affairs (ADAA) within one business day of the Course Director’s decision. The ADAA must respond to the student with a decision about the appeal within one business day.
Experiential Coursework

A student may appeal an assigned grade within 3 business days of the posting of that grade in experiential courses, by means of written communication addressed to the Assistant Dean of Experiential Education (ADEE). The ADEE will provide a response within one week. If the appeal is denied by the ADEE, the student may appeal to the ADAA within 24 hours of the decision.

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:

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

Probation

A student placed on probation is considered at risk of not completing the program and thus is no longer in good academic standing. Students on probation are not permitted to run for an elected office within any COP student organization. If the student currently holds an office, it may be in their best interest to resign from the position in order to focus on the probation concerns. Students should meet with their advisor and/or Office of Student Affairs and Admissions to discuss. Students on probation are not permitted to receive travel funding from the COP. Any other restrictions or requirements will be determined on an individual basis and described in the Student Progression and Professionalism Committee (SPPC) letter. Student progress will be monitored, and additional actions may be required to increase the probability of the student’s success. The status of “Probation” will be indicated on the student’s transcript during the time they are actively on probation. Once the student returns to good academic standing, the transcript will no longer reflect the probation status.

The SPPC will review probation cases based on the time parameters indicated in the SPPC letter. Any additional early alerts or documented concerns will be reviewed to determine the students’ academic standing.

Suspension

If a student is suspended, SPPC will specify the requirements under which re-entry into the program will be allowed. The status of “Suspension” will be permanently indicated on the student’s transcript.

A student who was suspended from the program may request re-entry to the program at the same semester in which they were suspended of the next academic year. The student must submit an Intent to Return form to the registrar. If the SPPC letter indicates documentation is required, it must be submitted with the intent to return form.
The timely submission of required documents after suspension does not guarantee re-entry. Re-entry will be considered by the Senior Associate Dean for Academic Affairs (SADAA) in consultation with the Assistant Dean for Student Services and Admission (ADSAA) and SPPC. Decisions will be made on a case-by-case basis.

Students who re-enter the program after suspension will be on probation for at least 1 semester. Academic, professional and behavioral compliance in accordance with the Technical Standards and Code of Conduct will be closely monitored by the student’s faculty advisor, the SADAA and the ADSAA.

Dismissal

If a student is dismissed, they may choose to re-apply to the program. There is no opportunity for re-entry through the SPPC.

Policy on Leave

Required Leave of Absence

While a student may request a voluntary Leave of Absence (LOA), the SPPC may also require a student to take a LOA if, in the judgment of the SPPC, the circumstances warrant such leave. Situations that may be considered for a required LOA include, but are not limited to, substance use/abuse, mental health issues, or other impairment that would require treatment and/or outside resources. There will always be specific requirements by which the student must abide to return to the program. Whether a required LOA or voluntary LOA, the student’s transcript will reflect “Leave of Absence” to protect the student and to serve as an alternative to suspension, which is a more significant sanction.

Voluntary Leave of Absence

A student may request a voluntary LOA by means of a letter addressed to the ADSAA. The student will receive a letter from the ADSAA within 15 days of receipt of the student’s request. The ADSAA’s letter will indicate the necessary steps for returning to the program the following year. The student must inform the ADSAA, in writing, at least 30 days before the start of the semester, of their wish to return to the program and indicate whether they have complied with all requirements. If the student does not comply with all requirements, OR if they do not indicate their intent to return in a timely manner, they will be withdrawn from the program.

However, completion of the requirements does not guarantee re-entry into the program, as the matter must be evaluated by ADSAA.

Readmission Requirements for Leave

The SPPC Chair or Vice Chair and the ADSAA will jointly meet with the student to convey this decision verbally and in writing. The SPPC letter will outline the necessary requirements to be taken in order to be considered for re-entry to the program the following year. The student must inform the ADSAA, in writing, at least 30 days before the start of the semester, of their wish to return to the program and indicate whether they have complied with all requirements. If the student does not comply with all requirements, or if they do not indicate their intent to return in a timely manner, they will be withdrawn from the program. However, completion of the requirements does not guarantee re-entry into the program, as the matter has to be evaluated by SPPC.
SPPC and/or the ADSAA will specify the requirements under which re-entry into the program will be allowed. The student must submit an intent to return form to the registrar. If the SPPC letter indicates documentation is required, it must be submitted with the intent to return form. The student is only required to retake the courses in which they did not obtain competency.

A student who was required to take a LOA may request re-entry to the program by means of a letter addressed to the ADSAA, indicating that they have complied with all requirements and referencing the letter which required that they take a LOA (provide date of letter).

Students who re-enter the program after suspension will be on probation for at least 1 semester. Academic, professional and behavioral compliance in accordance with the Technical Standards and Code of Conduct will be closely monitored by the student’s faculty advisor, the SADAA and the ADSAA.

**Process for Withdrawals**

Students withdrawing from Larkin University (LU) College of Pharmacy (COP) must do so officially by submitting the Withdrawal Form to the following individuals for a signature:

- The Assistant/Associate Dean of Student Affairs and Admissions (ADSAA)
- The Assistant/Associate Dean for Academic Affairs (ADAA).

After both signatures have been obtained, the student must submit the form to the Associate Director for Financial Services (ADFS) who will counsel the student on their financial responsibilities to the school and the loan provider. The ADFS will send the completed form to the Registrar for final processing.

It is the responsibility of the student to initiate a withdrawal, otherwise, an F grade will be issued at the end of the block and/or term. Students who withdraw from the program will not be permitted to return to the program without written permission from the ADAA, and they must reapply.

**Code of Conduct**

The Code of Conduct is defined as the written document outlining the requirements of student conduct related to academic honesty and professional behavior. The Code of Conduct applies to students enrolled in the Doctor of Pharmacy Program.

Professionalism is fundamental to the practice of pharmacy and is a core competency of the ACPE standards and LU’s COP curriculum. As a measure of progression through each of the courses within the Doctor of Pharmacy curriculum, the following competencies have been developed to ensure students’ learning and understanding of the expectations of a pharmacist.

- **Academic Honesty, Civility, and Respect** – Students, faculty, and staff are collectively responsible for creating a civil, respectful, and productive learning environment in didactic, lab, and experiential (IPPE/APPE) settings. Students are expected to treat their fellow students, faculty, staff, patients and the public with dignity and respect, and to respect the rights, privacy and confidentiality of others. Students will actively participate in educational experiences that expand their professional competencies.

- **Attendance** – Attendance and full attention and participation during didactic, experiential learning experiences, and co-curricular activities is expected. Students who know that they will be absent are still responsible for the content covered and must request an excused absence in order to communicate with the faculty regarding how to stay on track or makeup any missed
work. Unexcused absences and persistent tardiness will result in an early alert report to determine the cause of the absence/tardiness and determine the appropriate sanction and/or support for the student.

- **Communication** – All communication, including verbal, electronic, and other written communication is expected to be conducted with respect and to follow accepted professional norms of communication. Students are expected to accept and provide constructive feedback. Students are required to check their ularkin email account daily and to respond promptly.

- **Responsibility/Accountability** – Students are responsible for their own learning as well as for seeking assistance when needed. An important aspect of professionalism is for students to know their limitations and to ensure their successful progression by acknowledging the need for assistance either academically, personally, or professionally. Students will be accountable for their decisions and actions, while protecting patient confidentiality and trust.

- **Integrity** – Students are expected to be honest and trustworthy in their academic and professional endeavors. Students will make decisions based upon sound evidence that is in the best interest of patients. As a student pharmacist, it is your obligation to ensure the safety of patients by maintaining your own expectations of professionalism, as well as protecting the integrity of your peers. Any concerns about another student’s academic, professional, behavioral, or emotional situation must be addressed through the Office of Student Affairs and Admission (OSAA), Early Alert Program (EAP), your advisor, or any of the Assistant/Associate Deans.

- **Compassion** – Students will be empathetic to the values and perspectives of patients and their caregivers, and will respond patients’ needs in a safe and effective manner. Students will advocate for the profession of pharmacy as well as for patients, and will promote the use of safe and cost effective medications.

- **Use of technology and social media** – Students are expected to use technology as appropriate within and outside of the classroom and clinical environment. Students recognize the privilege and responsibility of joining the profession of pharmacy and, as such, agree to hold themselves to the highest standards at all times, and within all environments, including their presence on social media. Within the classroom and clinical environments students are expected to keep their phones on silent mode to minimize distraction. It is also expected that during class and experiential (IPPE/APPE) time, students will not utilize their phones or other devices for personal use, except in case of an emergency.

### Violation of the Code of Conduct

#### Academic Dishonesty

Academic Dishonesty is defined by the following actions:

- **Cheating**

  When a student who does not do his or her own work on an academic exercise, except when clearly defined by the instructor as a group exercise, or when a student otherwise gains an unfair advantage over his or her peers. This includes, but is not limited to:

- **Bringing to an assessment any books, notes, scraps of paper or information in any format that is intended to unfairly aid the student (or other students) during the assessment/reassessment/remediation;**

- **Receipt of unauthorized material from another student;**
• Passing of unauthorized material to another student;
• Bringing into the assessment/reassessment/remediation any unauthorized electronic device, such as a cellular phone;
• Any communication with another student during an individual assessment/reassessment/remediation;
• Any communication with another student about the individual assessment following completion of the individual assessment and prior to the group assessment;
• Any communication with another student or between assessment groups about assessment questions prior to or during the group assessment;
• Reference to notes, books etc. while on a bathroom break;
• Intentionally seeking information from another student’s computer screen or notes on scratch paper;
• Intentionally positioning your computer or scratch paper to allow viewing by another student.

Definition of Plagiarism
Defined by Webster’s dictionary as “to steal and pass off words of another as one’s own; to use another’s production without crediting the source.” Plagiarism can be either intentional or unintentional. An unintentional violation can occur when a student is unaware of correct citation practices in the writing of a paper, project, or presentation. To avoid such unintentional plagiarism, students must familiarize themselves with the appropriate process for crediting sources. This process must be maintained in all facets of the professional program. This includes preparation and submission of any course related documents (i.e. written documents), presentations (including PowerPoint slides), and electronic submissions to a student’s portfolio. It should be noted that this includes all activities associated with performance in the experiential education, co-curricular, and extra-curricular environments. Academic honesty and integrity also applies to all other programmatic activities. This includes, but is not limited to, award applications, scholarship applications, or any document or submission related to a student’s involvement in the program (e.g. academic appeal). Areas that require special attention include the following:

While proper citation methods will be taught, students are responsible for understanding how to avoid plagiarism. Students must properly acknowledge and cite all use of the ideas, data and conclusions of other authors. Failure to do so is considered plagiarism. All contributors to a piece of work must be acknowledged.

When the exact words of another person are used, these must be stated within quotation marks and a reference provided. Failure to do so is considered plagiarism. In the internet age, it is easy to cut and paste another person’s writing but it is wrong to do so without proper acknowledgement, as described above. Failure to do so may also be illegal in that the copyright laws may have been infringed.

Falsification and Fabrication
Fabrication is considered to be consciously manufacturing or manipulating information in a false manner. Falsification is considered to be willfully providing false, misleading, or incomplete information.

• **Failing to Respect Confidentiality** - Students will respect the privacy of all members of the LU community and maintain patient confidentiality and dignity.
• **Discrimination** – Discrimination and harassment will not be tolerated. Students are not permitted to treat persons or patients differently because of race, creed, color, national origin, age, sex, disability, sexual orientation, gender identity, or any other classification that deprives the person of consideration as an individual.

• **Incivility** – Behaviors and language that willfully disrupt the learning environment, are discriminatory or unprofessional by the standards of the College or other students, may be in violation of the Code of Conduct.

**Procedures for Handling Violation of Code of Conduct**

All members of the LU COP community are responsible for ensuring compliance with these expectations for professional conduct in the classroom, laboratories, co-curricular activities, extra-curricular activities, and experiential practice sites. When time sensitive and appropriate, faculty and staff should address any concerns directly with the student(s). Any suspicion of academic dishonesty or lack of academic integrity may be a breach of the Code of Conduct and should be reported to the Office of Student Affairs and Admissions (OSAA). The OSAA will investigate and enter the findings of the investigation in the Campus Nexus system. All concerns or suspected violations, including any interaction with the student(s), should be documented through the EAP which is managed by the OSAA. Significant or ongoing concerns may be managed through intervention by the OSAA. If a violation is found to have occurred, the Assistant/Associate Dean for Student Affairs and Admissions (ADSAA) will refer the case to the Student Progression and Professionalism Committee (SPPC) for sanctioning. Please refer to the Progression Policy and Procedures for more information related to the SPPC and the how sanctions are managed.

An Assistant/Associate Dean, in consultation with the Dean, after an investigation may choose to impose an administrative sanction when a violation of the Code of Conduct has occurred. In this event, the student will be notified of the administrative sanction and the SPPC will be notified of the decision. The SPPC will be responsible for the monitoring of the administrative sanction.

**Graduation Requirements**

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

- Completion of pre-pharmacy course requirements (63 credit hours) as described in the Admission Requirements.
- 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).
- Successfully complete an End-of-Semester comprehensive assessment at the end of each semester.
- Completion of required co-curricular components of the program.
- Completion of an electronic portfolio deemed acceptable by the COP faculty.
- Demonstrate competency in the required knowledge and skills prior to starting APPEs.
- 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.
- Pay all fees and financial obligations to LU.
- Complete the requirements of the Doctor of Pharmacy degree within 5 years of initial enrollment at the college.
In keeping with pharmacy tradition, be recommended for the degree by the faculty of the COP.

In order to become a licensed pharmacist, the graduate must pass both the national pharmacy licensing examination and a state licensing examination for the state in which the graduate desires to practice.

**Advising**

The advising philosophy of the College of 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 of the college. 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 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.

**Responsibilities of the Student**

- Meet with the advisor at least one time a semester during P1 year; more often if needed
- Seek assistance from the advisor when a problem arises
- Schedule and keep advising appointments
- Prepare for the advising appointment
- Reviewing personal academic progress
- Preparing pertinent questions regarding academics, career, and professional aspects of pharmacy.
- Complete all required components of the Electronic Portfolio (E-Portfolio) by the specified due dates.

**Responsibilities of the Advisor**

- Serve as the primary contact for the advisee when problems arise
- Guide the student through the curriculum and monitor progress
- If asked, serve as an advocate for students who are required to attend a Student Progression and Professionalism Committee (SPPC) meeting
- Assist in developing a career plan and connect students to faculty and/or preceptors who can mentor the student
- Provide information regarding the College’s policies and procedures
- Review and provide guidance for artifacts within the E-Portfolio
- Update CampusNexus with complete advising information by the end of each semester.
The faculty advisor will also participate in:

- Professional development provided through the Office of Student Affairs and Admission (OSAA)
- Following procedures of the Early Alert Program by meeting with the advisee and assisting with the creation of a Remediation Plan when needed.
- Referring students to resources, or consulting with the OSAA to determine appropriate resources

Responsibilities of the OSAA

- Provide support to faculty in learning effective advising competencies
- Provide resource materials and referral information for faculty and students
- Monitor the advising process by maintaining a centralized database of
- Follow-up or referral to other campus or community resources
- Requests for changes of advisor/advisee

Advising Procedures

During the first eight weeks of the fall semester, all P1 students are required to meet with a member of the OSAA who all have training and experience in advising. The purpose of the initial meeting is to ascertain if students are experiencing challenges related to transitioning to a professional graduate program, academic difficulties, relational/personal challenges, or financial concerns.

If not already identified through the Early Alert System (EAS), students will be referred to support services as appropriate (e.g., counseling or financial services, or academic support).

Faculty will complete training on Faculty Advising and Student Development as provided by the OSAA prior to being assigned advisees. Ongoing support for faculty will occur through brown bag lunch opportunities and regular communication with the Director of Student Services (DSS) regarding specific advising concerns.

After the initial meeting with the OSAA, and the faculty training, the OSAA will assign each student to a faculty advisor. Each faculty member will have no more than eleven (11) advisees.

Faculty advisors will be notified of their assigned advisees and provided access by the Registrar to their advisees’ academic information through CampusNexus, the COP’s Student Information System. Faculty advisors have permission to access all academic and progression information for their advisees.

The OSAA will sponsor a lunch meeting in the middle of the first semester where faculty advisors and advisees will meet as a group. Faculty advisors and students are required to attend this event.

Students identified as at-risk will continue to meet with the staff of the OSAA and their faculty advisor to ensure adequate support and guidance.

Students will be required to meet individually with their faculty advisors at least once during the fall and spring semesters in the first year.

The DSS will send an email reminder to all students about scheduling an advising appointment. It is the student’s responsibility to contact their faculty advisor to select a mutually available time to meet.

Failure to schedule or attend an advising meeting will trigger an early alert, which will be reported to the DSS.
Beginning in the summer semester of the first year, and during the entire second and third year, students who remain successful (academically and professionally) in the program have the option to communicate with their faculty advisor through email or in person.

Faculty advisors are required to reach out to their advisees at least once per semester through email and offer office hours and individual appointments as needed.

Faculty advisors will complete the Advising Appointment Record for each advisee and maintain a copy in CampusNexus.

**Student Organizations**

The College 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. 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.

**Student Government Association**

The COP Student Government Association (SGA) is the first official student organization created by the students of the COP and was chartered in fall 2016. The SGA serves as the voice of the student body. Some of the specific roles of the SGA are to provide administrative support to all student organizations, including budgeting, communications, fundraising coordination, providing annual training support regarding policy and procedures and provide a forum for student dialogue and expression of ideas and concerns.

The COP Student Government Association bases its mission and ideals on a constitution directed, developed and implemented by the student body under the advisement of the Director of Student Services. The SGA follows parliamentary procedures, Robert’s Rules of Order, to conduct all meetings and recommends the same for all other student organizations.
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
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</thead>
<tbody>
<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 Technique</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>
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<td>PH 508</td>
<td>Nonprescription Medicine and Self-Limiting Diseases</td>
<td>2.5</td>
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<tr>
<td>PH 509</td>
<td>Pharmacy Practice and Interprofessional and Patient Communications (Longitudinal)</td>
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**Year 1 Spring Semester**

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<tbody>
<tr>
<td>PH 510</td>
<td>IPPE I Community</td>
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<tr>
<td>PH 511</td>
<td>IPPE II Hospital</td>
<td>4</td>
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<tr>
<td>PH 512</td>
<td>Biopharmaceutics and Pharmacokinetics</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 513</td>
<td>Medicinal Chemistry, Pharmacology and Toxicology II</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 514</td>
<td>Respiratory Disorders</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 515</td>
<td>Endocrine and Metabolic Disorders</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 516</td>
<td>Research Methodology and Literature Evaluation I (Longitudinal)</td>
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**Year 1 Summer Semester**

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<tr>
<th>Course Number</th>
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<tbody>
<tr>
<td>PH 517</td>
<td>Bone and Joint Disorders, Dermatology, EENT</td>
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</tr>
<tr>
<td>PH 518</td>
<td>Men’s and Women’s Health (Gynecological, Obstetric, Urologic Disorders)</td>
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</tr>
<tr>
<td>PH 519</td>
<td>Renal Disorders</td>
<td>2.5</td>
</tr>
<tr>
<td>PH 520</td>
<td>Cardiovascular Disorders I</td>
<td>2.5</td>
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<tr>
<td>PH 521</td>
<td>Practice Management and Informatics</td>
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**YEAR 2 Fall Semester**

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<tbody>
<tr>
<td>PH 601</td>
<td>Cardiovascular Disorders II</td>
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</tr>
<tr>
<td>PH 602</td>
<td>Cardiovascular Disorders III</td>
<td>2.5</td>
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<tr>
<td>PH 603</td>
<td>Neurologic and Psychiatric Disorders I</td>
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<tr>
<td>Course Code</td>
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</tr>
<tr>
<td>PH 604</td>
<td>Neurologic and Psychiatric Disorders II</td>
<td>2.5</td>
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<td>PH 605</td>
<td>Neurologic and Psychiatric Disorders III</td>
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<tr>
<td>PH 606</td>
<td>Hematologic and Oncologic Disorders I</td>
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<tr>
<td>PH 607</td>
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<tr>
<td>PH 608</td>
<td>Gastrointestinal Disorders</td>
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</tr>
<tr>
<td>PH 609</td>
<td>Pharmacoeconomics, Pharmacoepidemiology, Policies and Outcomes (Longitudinal)</td>
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### Year 2 Spring Semester

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<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>
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<tr>
<td>PH 617</td>
<td>Elective II</td>
<td>2.5</td>
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<tr>
<td>PH 618</td>
<td>Literature Evaluation II and Doctoral Seminar (Including poster presentation) (Longitudinal)</td>
<td>2.5</td>
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### Year 3 Summer, Fall, and Spring Semester

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<tr>
<td>PH 701</td>
<td>APPE – Ambulatory Patient Care</td>
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<tr>
<td>PH 702</td>
<td>APPE – General Medicine Patient Care</td>
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<tr>
<td>PH 703</td>
<td>APPE – Hospital/Health Systems Pharmacy</td>
<td>6</td>
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<tr>
<td>PH 704</td>
<td>APPE – Community Practice</td>
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</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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<td>PH 707</td>
<td>APPE – Elective</td>
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<td>PH 708</td>
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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 LHSI 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 Pharmacopeia 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 and dyslipidemia. 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 and dyslipidemia.
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 thromboembolism, peripheral artery disease, and atherosclerotic cardiovascular 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 arrhythmias, venous thromboembolism, peripheral artery disease, and atherosclerotic cardiovascular disease.

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, acute coronary syndromes, cardiac arrest, 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, acute coronary syndromes, cardiac arrest, 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 disorders related to neurologic and psychiatric 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 neurology and psychiatry. Class format will consist of lecture, case studies, group assignments, and/or group discussion. The goal is to facilitate the application of pharmacotherapy topics for disorders related to neurology and psychiatry.

PH 605 Neurologic and Psychiatric Disorders III (2.5)

This is an integrated course designed to introduce students to the principles of pharmacotherapy for disorders related to neurologic and psychiatric 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 neurology and psychiatry. Class format will consist of lecture, case studies, group assignments, and/or group discussion. The goal is to facilitate the application of pharmacotherapy topics for disorders related to neurology and psychiatry.

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.

**ELECTIVES**

**PH 616E DCAS Independent Research I & II Elective (2.5)**

This course sequence is a two-course offering of research electives (Independent Research I and II). This elective course is designed to provide a select group of pharmacy students with the opportunity to begin to develop knowledge and skills as laboratory or clinical researchers. Individual faculty members will take limited number of students and based on their personalized interest and expertise, will engage students in various types of research activities, which include but are not limited to, laboratory work, computational work, literature review and synthesis, as well as and clinical and outcome research.
PH 617E DPS Independent Research I & II Elective (2.5)

This course sequence is a two-course offering of research electives (Independent Research I and II). This elective course is designed to provide a select group of pharmacy students with the opportunity to begin to develop knowledge and skills as laboratory or clinical researchers. Individual faculty members will take limited number of students and based on their personalized interest and expertise, will engage students in various types of research activities, which include but are not limited to, laboratory work, computational work, literature review and synthesis, as well as and clinical and outcome research.

PH 619E Leadership and Advocacy in Healthcare Elective (2.5)

This course is focused on developing leadership and advocacy skills in pharmacy students to use in professional and personal settings. The course will build on leadership theory and application of skills to advocate for patients and the profession of pharmacy. Topics include conflict resolution, motivating others to create successful teams, interprofessional leadership, and advanced communication skills. The course will require personal reflection, development of vision, goals, and plans for advocacy and leadership, as well as guided group discussion.

PH620E Maximizing APPE Readiness and Post Graduate Preparation Elective (2.5)

This course is a graded elective course offered to second year pharmacy students who are applying to maximize their APPE experience and post-graduate process such as residencies and fellowships. The course will focus on maximizing student experiences during APPEs and improving a student’s interviewing and presentation skills. The course will also allow for developing their Curriculum Vitae and action plan to compete for post graduate opportunities (e.g., residencies, fellowships).

PH 622E Pediatric Pharmacotherapy Elective (2.5)

The course is designed to provide an introduction to pharmacotherapy issues related to pediatric patients. The course will introduce the physiological and developmental differences that impact medication use in the pediatric patient in common pediatric illnesses and disorders. The course will prepare the student with the knowledge base and problem-solving skills necessary to provide pharmaceutical care to this population in most practice settings.

PH 623E Nuclear Pharmacy Elective (2.5)

Nuclear pharmacy (also referred to as radiopharmacy) represents a special practice area within the profession of pharmacy. The Nuclear Pharmacy is a team-taught course that explains the theoretical foundations of the profession of nuclear pharmacy. This course aims to assist students in understanding the fundamentals of radiation, radioactivity and radiobiology, and to develop an appreciation and respect for the application and role of radiation in promoting health care, and to recognize the value of radiation safety as it applies to the day-to-day activities of nuclear pharmacists. It seeks to discuss the principles of instrumentation used in nuclear pharmacy as well as use of these instruments as related to daily practice. In addition, this course will also provide a brief overview of the concepts of diagnostic imaging as well as clinical applications of radiopharmaceuticals for the diagnosis and treatment of various diseases.

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-week 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.