

**Texas Southern University
College of Pharmacy and Health Sciences
Clinical Laboratory Science Program**

**CLS PROGRAM STUDENT HANDBOOK
2022-2023**

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WELCOME

Welcome to the Clinical Laboratory Science (CLS) Program at Texas Southern University, (TSU). Texas Southern University "is a comprehensive, historically Black institution of higher education dedicated to providing quality instruction, scholarly research, and socially responsible public service". The University is committed to providing access and opportunity for all and this tenet is reflected in the enrollment population that is comprised of an academically and ethnically diverse student body.

Congratulations on choosing a career path which will prepare you to become a member of the health care team. Through the analysis of body fluids, tissues, and cells, the clinical laboratory scientist/medical laboratory scientist play an integral role in the detection, diagnosis, monitoring and treatment of disease.

The Bureau of Labor Statistics recently stated that employment opportunities for clinical laboratory scientists /medical laboratory scientists are expected to exceed most occupations through the decade with new jobs being needed each year. These projections are based on the volume of laboratory testing, sharply increasing in the coming years and on advances in clinical laboratory sciences creating new tests and laboratory procedures.

The Clinical Laboratory Science Program is administratively located within the College of Pharmacy and Health Sciences (COPHS) in the Department of Pharmacy Practice and Clinical Health Sciences. Additional information relevant to the program may be found in the following - **Texas Southern University Undergraduate Catalog (2019-2020), College of Pharmacy and Health Sciences (COPHS) Student Academic Policy Handbook (2019), and the Texas Southern University (TSU) Website:** <http://www.tsu.edu/academics/colleges-and-schools/college-of-pharmacy-and-health-sciences/departments-and-programs/clinical-laboratory-science.html>.

This handbook is designed to assist and guide you as you matriculate through the program. It contains information regarding the program, advisement, curriculum, policies and procedures. If you should have questions, please visit your assigned advisor's office or call and schedule an appointment.

NOTICE OF RULE CONFLICT

In the case that the policy or procedure in this handbook conflicts with a University or College of Pharmacy and Health Sciences policy or state or federal law, the most stringent rule will prevail.

MISSION STATEMENT

The CLS Program is dedicated to fulfilling the mission of the COPHS Department. Additionally, the undergraduate Clinical Laboratory Science Program is dedicated to providing a learning environment that fosters the transformation of a diverse population of CLS students into academically, intellectually and technically prepared Clinical Laboratory Scientists.

PROGRAM GOALS

- Provide an academic and experiential program following the guidelines of the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
- Provide students with a comprehensive education that will facilitate successful passage on national board accreditation examinations (American Medical Technologist, American Society for Clinical Pathology)
- Develop the required cognitive, psychomotor, and affective skills that will support students' success to function as a competent, entry level Clinical Laboratory Scientist.
- Prepare CLS students to assume leadership positions in the health industry
- Students will model the professional traits of an entry level healthcare practitioner.

ACCREDITATION

The TSU CLS Program is accredited by the National Accreditation Agency for Clinical Laboratory Sciences (NAACLS). **NAACLS is recognized by the Council for Higher Education Accreditation (CHEA). NAACLS is located at 5600 North River Road, Suite 720, Rosemont, IL, 60018-5119, and be contacted at 847-939-3597, www.naacls.org.**

CLS PROGRAM FACULTY

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CLINICAL AFFILIATE FACULTY

Clinical affiliate faculty is comprised of Clinical Laboratory Scientists employed at various clinical affiliated laboratories for Clinical Internships. They instruct TSU students during their Clinical Internships, are employed by the affiliate facility and receive no salary from TSU. All Clinical Affiliate Faculty are clinical laboratory scientists with experience in clinical laboratory practice.

CLS ADVISORY BOARD

The CLS Advisory Board is comprised of clinical laboratory professionals, currently practicing and retired, CLS Program and COPHS faculty.

PROGRAM GRADUATE COMPETENCIES

1. Performs analytical tests on blood and other body fluids, culture materials, tissues and cellular specimens with accuracy and reports test results accurately
2. Integrates and relates data generated by the various laboratory departments while making decisions regarding possible discrepancies
3. Utilizes quality control to evaluate the validity and reliability of test results
4. Recognizes abnormal results and knows the applicable course of action to take
5. Evaluates quality control results and Performance Improvement measures, and institutes proper procedures to maintain accuracy and precision
6. Performs preventive and corrective maintenance of equipment and instruments as well as identifying appropriate sources for repairs
7. Demonstrates professional conduct and interpersonal skills with patients, laboratory personnel, other health care professionals, and the public
8. Establishes and maintains continuing education as a function of growth and maintenance of professional competence
9. Applies analytical skills to resolve problems that are pre-analytical, analytical and post-analytical errors encountered during patient testing
10. Demonstrates ability to prioritize tasks to facilitate timely reporting of test results
11. Organizes work effectively and maintains accurate records
12. Applies safety principles when performing lab activities

CLS PROGRAM TERMINAL OUTCOME STATEMENTS

1. Competency to perform a full range of testing in the clinical laboratory encompassing pre-analytical, analytical, and post-analytical components of laboratory services, including hematology, chemistry, microbiology, urinalysis, body fluid analysis, molecular diagnostics, diagnostic immunology, and immunohematology
2. Proficiency to problem-solve, troubleshoot, interpret results, and use statistical approaches when evaluating data
3. Display professional conduct, respecting the feelings and needs of others, protecting the

confidence of patient information, and not allowing personal concerns and biases to interfere with the welfare of patients

4. Administrative skills consistent with philosophies of quality assurance, continuous quality improvement/**process improvement** (QA/PI), laboratory education, fiscal resource management
5. Application of safety and governmental regulations and standards as applied to medical laboratory practice
6. Effective communication skills to ensure accurate and appropriate information transfer
7. Apply knowledge of physiology and structure of selected analytes, to interpret results of test and to detect/identify sources of error and interfering substances during analysis of specimens.

PROGRAM ESSENTIAL REQUIREMENTS

The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) mandates that students be informed of the essential functions a student in the Clinical Laboratory Science Program at Texas Southern University is expected to meet the following requirements.

Observation Requirements:

- Observe laboratory demonstrations in which biologicals (e.g., body fluids, culture materials, tissue sections, and cellular specimens) are tested for their biochemical, hematological, microbiological, and immunologic components
- Characterize the color, clarity, odor, and viscosity of biologicals, reagents, or chemical reaction products
- Employ a clinical grade microscope to discriminate among fine structural differences in structure and color (i.e. hue, shading, and intensity) in microscopic specimens
- Read and comprehend text, numbers, and graphs displayed in print and on a video monitor or other visual aids

Environmental Requirements

- Must be able to work in an environment with potentially infectious materials and toxic chemicals that require special safety precautions
- Provide proof of recent immunizations for hepatitis B, varicella, pertussis, diphtheria, tetanus, measles, mumps, and rubella
- Provide proof of pre-clinical testing for tuberculosis (skin test or chest x-ray)
- Pass a pre-clinical drug screen
- Purchase liability insurance

Movement Requirements

- Move freely and safely about a laboratory
- Reach laboratory bench tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture
- Travel to numerous clinical laboratory sites for practical experience
- Perform moderately taxing, continuous physical work, often requiring prolonged sitting,

over several hours

- Maneuver phlebotomy and culture acquisition equipment to safely collect valid laboratory specimens from patients
- Utilize laboratory equipment (e.g., pipettes, inoculating loops, test tubes) and adjust instruments to perform laboratory procedures
- Use a keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information

Communication Requirements

- Read and comprehend technical and professional materials (e.g., textbooks, magazines, journal articles, handbooks, and instruction manuals)
- Follow verbal and written instructions in order to correctly and independently perform laboratory test procedures
- Clearly instruct patients prior to specimen collection
- Effectively, confidentially, and sensitively converse with patients regarding laboratory tests
- Evaluate the performance of fellow students, staff, and healthcare professionals verbally and in a recorded format (writing, typing, graphics, or telecommunications)
- Use computer software (word processor, spreadsheet, database, information systems), the internet, and the world wide web for communication, education, and professional purposes
- Independently prepare papers, laboratory reports, and take paper, computer, and laboratory practical examinations

Intellectual Requirements:

- Possess the intellectual skills of comprehension, measurement, mathematical calculation, reasoning, integration, analysis, comparison, self-expression, and criticism
- Solve problems and think critically
- Exercise sufficient judgment to recognize and correct performance deviations
- Critically evaluate own performance, accept constructive criticism, and take steps for improvement (e.g., participate in enriched educational activities)
- Dress to project a neat, well-groomed, professional appearance
- Conduct oneself in a professional manner toward fellow students, faculty, clinical preceptorship employees, and patients
- Manage the use of time and systematize actions in order to complete professional and technical, tasks within realistic constraints
- Possess the emotional health necessary to effectively employ intellect and exercise appropriate judgment
- Provide professional and technical services while experiencing the stresses of task-related uncertainty (e.g., ambiguous test ordering, ambivalent test interpretation), emergent demands (e.g., "stat" test orders), and a distracting environment (e.g., high noise levels, crowding, complex visual stimuli)
- Be flexible and creative and adapt to professional and technical change

- Recognize potentially hazardous materials, equipment, and situations and proceed safely in order to minimize risk of injury to patients, self, and others nearby
- Adapt to working with potentially offensive specimens, chemicals, and biologicals
- Support and promote the activities of fellow students and health care professionals
- Help foster a team approach to learning, task completion, problem solving, and patient care
- Be honest, compassionate, ethical and responsible
- Be forthright about errors or uncertainty

Adapted from: Fritsma, G.A., Fiorella, B.J., and Murphey, M. *Essential Requirements for Clinical Laboratory Science*. CLS 1996. Vol. 9, pp 40-43.

CLS PROGRAM DESCRIPTION

The CLS Program at TSU is a four (4) year Baccalaureate program. The program is accredited by National Accrediting Agency for Clinical Laboratory Sciences (NAACLS). The Clinical Laboratory Science Program at TSU aspires to prepare practitioners who are academically, intellectually, and technically qualified to provide skills and services needed by a diverse public and health care community. The program includes academic (didactic) and clinical (practical or internship) experiences designed for students to acquire the desired competencies to meet the needs health care industry. Clinical laboratory scientists perform many routine and specialized tests in clinical, research, industrial, or private laboratories to provide diagnostic data supporting health maintenance, quality control, and product development. The Clinical Laboratory Scientist may have a variety of responsibilities including, but not limited to, implementing and performing tests, supervising, teaching, and consulting. Thus, graduates must have the capability and resourcefulness to assume responsibility and accountability for accurate test results and to provide knowledgeable supervision, education and consultation. The goal of this program is to provide the educational experiences necessary to prepare students to attain these expected outcomes.

The CLS curriculum is designed to meet the program goal. The curriculum is divided into two phases: the pre-professional phase and the professional phase. The pre-professional phase includes the first two years of course work during which all prerequisite courses are completed. A description of the professional phase is below.

PROFESSIONAL PHASE ADMISSION

The professional phase is two calendar years in length and begins **ONLY** in the Fall semester. Students should make application to the program by April for the Fall class. There is only one entering class each year in the Fall semester. Applicants must be accepted prior to enrollment in professional courses. Applications to the program are made through the website (<http://www.tsu.edu/academics/colleges-and-schools/college-of-pharmacy-and-health-sciences/departments-and-programs/clinical-laboratory-science.html>). Students must complete all pre-requisite courses prior to admission, submit three letters of recommendation, have a GPA of 2.50 or better on a 4.00 scale, take the ATI TEAS Entrance Exam for Allied Health

Professionals, and pay the \$55.00 application fee. (A score of 70 is competitive for ATI TEAS Entrance Exam)

The CLS Admission Committee will begin interviewing qualified applicants in late April of each year and the Program Director will notify each applicant of the acceptance or non-acceptance by the last day of May. **Note that a student granted unconditional acceptance to the program must have completed all pre-professional requirements prior to the beginning of the fall semester of the junior year (1st professional year) and be enrolled as a fulltime student carrying a full load.** In the case of a transfer student or one that has been out of school and is returning, the pre-professional course work should have been completed within the past five years. Students with course work that extends beyond this five-year limit should make an appointment with the Program Director to discuss the course work in question.

Clinical Internships (2nd professional year) begin in the fall of the senior year and is restricted to students who have satisfied **ALL** program requirements and who have been approved for assignment. Enrollment in this phase is limited based on available resources both on campus and in affiliated facilities. When the number of qualified applicants exceeds the enrollment capacity, selection for clinical placement will be based on cumulative GPA, professional, and affective behaviors. Students not placed at this time will be given first preference when a site becomes available. Students will receive written notification of their clinical assignment at the beginning of the fall semester of their senior year along with their rotation schedule.

Additional information regarding Clinical Internships is given **starting page 19.**

TRANSFER STUDENTS

Students interested in transferring to TSU for the professional phase of the program must satisfy the programmatic criteria, university criteria and meet application deadlines. Transfer students should refer to the TSU Undergraduate Catalog 2019-2020 for University policies regarding transfer credit. Substitution of transfer course work for programmatic required course work is determined by the program official through the registrar office and evaluation of the student records via submission by the Program Director via approval by the Dean of the College.

Upon completion of this program, the student earns the Bachelor of Science Degree in Clinical Laboratory Science. Graduates are eligible to take a national certification examination to become a certified Medical Laboratory Scientist (MLS; ASCP) or Medical Technologist (MT; AMT). **Graduation from the program is not contingent on passing an external certification examination.**

POLICIES

TEACH-OUT POLICY

In the event the CLS Program is terminated, NAACLS will be notified within 30 days of closure.

Students already in the program will be allowed to complete the program in accordance with the COPHS Time in Study Policy (Article VII, Section 1) stating that students will have up to four years from the time of initial entry into the professional phase to complete the program.

UNIVERSITY CLOSURE POLICY

If TSU is closed for natural or other disasters, the students should remain at home until TSU is opened. Students should consult the TSU website, student email, and/or local media outlets for re-opening of the University. Missed material will be covered at the discretion of the Instructor of Record in accordance with the COPHS Student Attendance Policy.

DISABILITY POLICY

Students with a disability which may require accommodations should contact the Office of Student Services upon admission to the professional program or upon realization of the disability. Students with disabilities are accommodated according to the Americans with Disability Act (ADA) and section 504 of the Rehabilitation Act. Reasonable accommodations will be made for students with ADA/504 disabilities if they would allow the student to effectively participate in COPHS programs. Students should contact the Assistant Dean for Services in COPHS who will work with the Office of Student Disabilities in providing accommodation.

NON-DISCRIMINATORY POLICIES

Texas Southern University is in compliance with Title VII of the Civil Rights Act of 1964 and does not discriminate on the basis of race, creed, color, or national origin. It is also in compliance with the provisions of Title IX of the Educational Amendments of 1972 which prohibit discrimination on the basis of sex.

SERVICE WORK POLICY

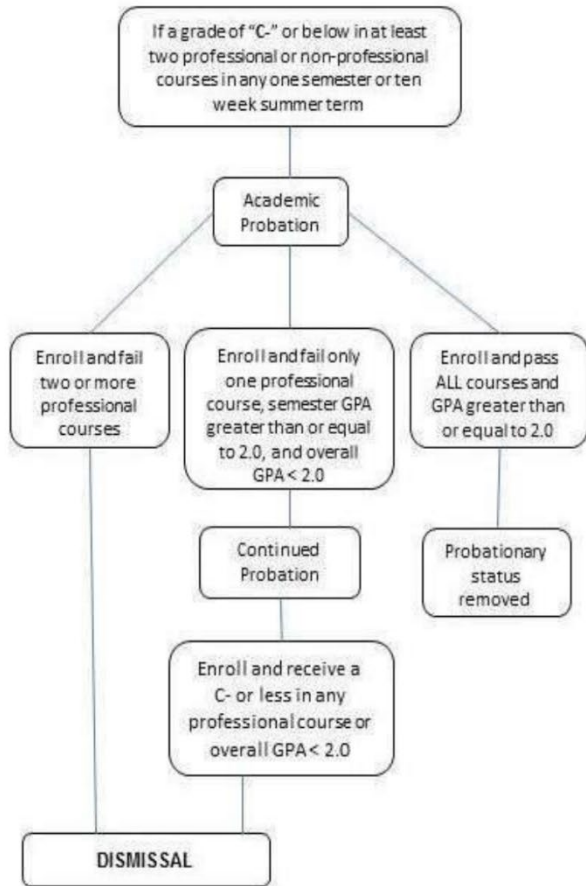
- During clinical internships, **students may not work for pay at any institution to which they are assigned for clinical internships and receiving academic credit until that clinical internship is complete.**
- During clinical internships students are not allowed to perform service work or to be substituted for regular staff. Service work does not substitute for clinical experience.

Students are encouraged to NOT work after clinical hours. However, financial need may necessitate student employment which when necessary should only be part-time. If working comprises student grades and performance, the student must come before the academic standing committee.

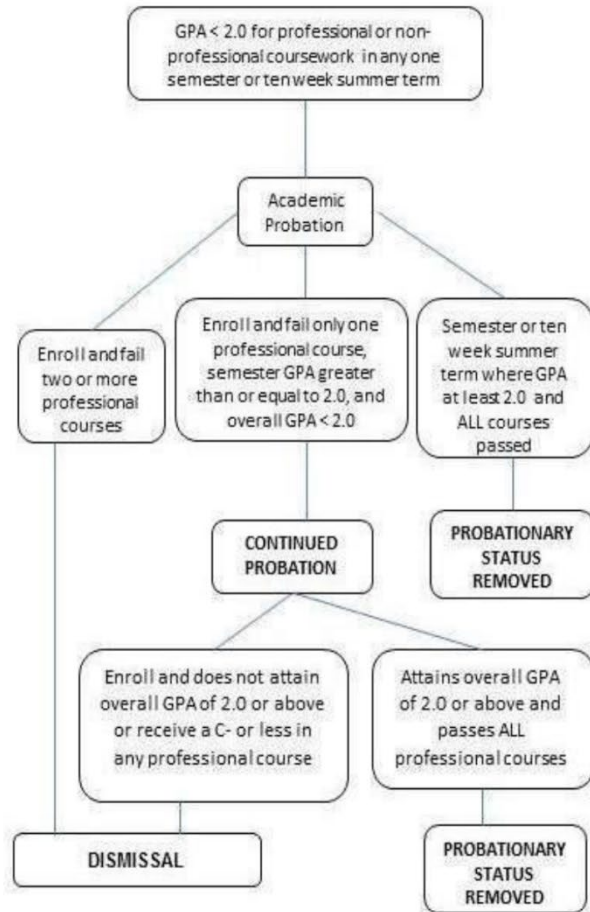
ACADEMIC PROGRESSION (DISMISSAL) POLICY

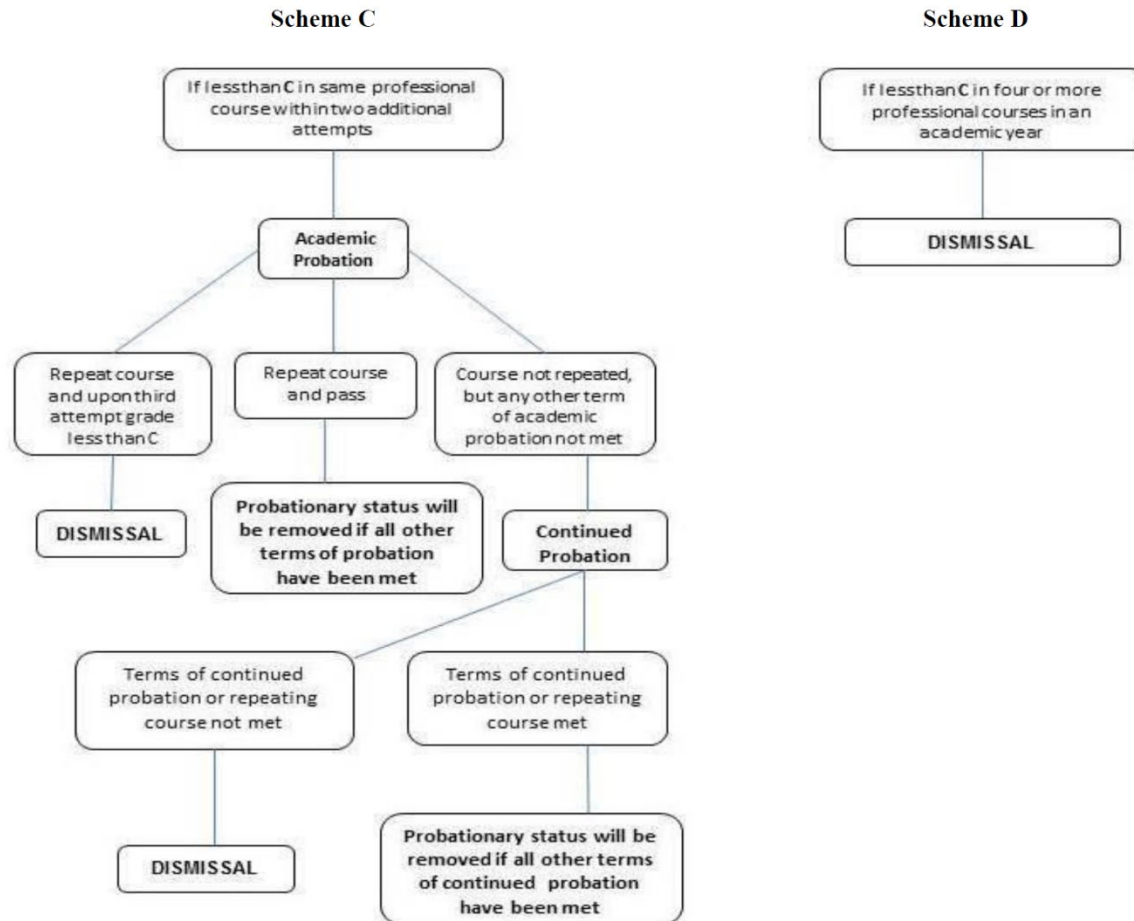
The Academic Progression Policy is detailed in the COPHS Student Manual 2019-2020 and is summarized below. The appellate process for Dismissal is also outlined in the COPHS Student Manual 2019-2020.

Scheme A



Scheme B





ATTENDANCE

Compulsory class attendance is the policy of the College of Pharmacy and Health Sciences (COPHS) and applies to all students regularly enrolled in pharmacy and health science courses. For Clinical Internships **no more than two absences are allowed**. Class meetings are normally held Monday through Friday of each week or as scheduled. Unavoidable absences because of illness or true emergencies do not relieve the student of any academic responsibilities. The student must make arrangements with his/her instructor to obtain any class materials or information that was missed. The instructor is not required to set up an individual lecture session for an individual student. If the student is to leave the professional program for an extended period (**more than three consecutive classes**) due to illness, the student should notify the Program Director, and the Office of Student Services in writing. In exceptional cases, withdrawal from the course/program may be necessary. Notification of the Program Director and the Associate Deans must occur prior to the commencement of the leave.

Information regarding attendance during Clinical Internships is given on [page 23](#).

DRESS CODE

The highest standard of grooming and personal cleanliness must be maintained as it is your professional obligation to do all you can to make your appearance professional and make your patients have confidence in you and your ability to help them. The minimal dress code standards that all TSU CLS students must adhere to include the following:

- Clothing must be in good condition, clean. No uniform is required during on campus classes.
- A disposable, protective lab coat is required for all laboratory activities.
- Closed shoes are required in the laboratory.
- Nails must be clean, neat, not excessive in length, and nail polish without ornamentation is preferred.
- Hairstyles of the student are expected to be conservative and in good taste
- Students with long hair styles must wear hair pulled back off the face when in laboratory to avoid interference with performance.
- **Students at Clinical Internship Sites will adhere to the dress codes of the clinical affiliate. Additional information regarding the dress code is given in the section on Clinical Internships starting page 19.**

STUDENT CONDUCT

Students should demonstrate appropriate professional conduct as described in the TSU **Student Code of Conduct; TSU Undergraduate Catalog 2019-2020**; and the COPHS **Student Academic Handbook**, approved Fall 2019. The COPHS deems unprofessional conduct of any type unacceptable and will subject the violator to disciplinary action. Examples of “Unprofessional Conduct” or “Academic Misconduct” shall include but not be limited to the following.

1. Any violation of University rules or regulations as stated in the Student Code of Conduct, or violation of rules and regulations of affiliated institutions, any conduct of a felony grade or any misdemeanor involving moral turpitude that violates municipal, county, state, or federal laws.
2. Plagiarism: the appropriation of passages, either word-for- word or in substance from the writings of another and the incorporation of these as one's own written work offered for credit. It is always assumed that the written work offered for credit is the student's own unless proper credit is given the original author by the use of quotation marks and footnotes or other explanatory quotes.
3. Collusion: working with another person in the preparation of notes, homework, laboratory exercises, reports, papers, or other written work offered for credit unless such collaboration is specially approved in advance by the instructor.
4. Cheating on an Examination or Quiz: giving or receiving, offering or soliciting information, or using prepared material in an examination or a quiz. On examination

and quizzes, students shall refrain from talking, from bringing notes and books into the examination room, or looking around the room during examination. Any use of aids that have been permitted such as: calculators, cell phones, electronic devices, and the internet.

5. Impersonation: allowing another person to attend classes, take examinations or authoring graded assignments for an enrolled student under the enrolled student's name is strictly forbidden.
6. Intimidation: Conduct that inhibits student or employee behavior or makes students or employees fearful because of threats, either written, spoken, or implied.
7. Violation of the student of College of Pharmacy and Health Sciences Pledges of Professionalism
8. Violation of Conduct in the Classroom Policies both onsite and online
9. Self-enrollment in classes without written approval of the academic advisor (See Article V, Section 1).
10. Any other act which impedes the academic goals and objectives of the College of Pharmacy and Health Sciences; including but not limited to forgery, theft, buying or selling work, falsification of documentations, carrying of weapons at practice sites or while engaged in practice experiences, etc.

PROFESSIONAL CONDUCT AT CLINICAL INTERNSHIP SITES

Professional and ethical conduct is required at all times while conducting Clinical Internships.

The student is representing the TSU-COPHS. Each student is expected to be cooperative, adhere to instructions, and respect patients and other healthcare professionals, which includes following policies and procedures established at the Clinical Internship site. Failure to exhibit professional conduct may result in an incomplete course grade, zero credit and other disciplinary action, if necessary, as determined by the Office of Program Practice. Additional information regarding Internships is given in Clinical Internships section beginning **page 19.**

During Clinical Internships failure to maintain respect for the patient and confidentiality of the patient's record and/or diagnosis will result in disciplinary action and possible expulsion from the program (HIPAA violation).

TRANSPORTATION/PARKING

The student is responsible for his/her transportation and parking to any assigned site or class activity. Students are not guaranteed a site near their home address. To guarantee prompt arrival, students should allow enough time for their site destination and parking to guarantee

prompt on-time arrival to the practice area.

LABORATORY SAFETY

All TSU CLS laboratories are classified as Bio-safety Level II laboratories (BSL II). Therefore, these laboratories fall under Federal regulations delineated in Section 511 of Public Law 104-132, included in 42CFR Part 72 which makes adherence to these requirements mandatory. Failure to comply with these regulations may result in denied access to CLS laboratories. Students entering the program complete safety training during the first week of classes at the University and first week of Clinical Internship.

The CLS program requires that all students participating in laboratory training be as safe as possible. The very nature of the profession requires students to come in contact with potentially hazardous materials and situations; thus, the CLS program will comply with all current standards set forth by the Occupational Safety and Health Administration (OSHA) and the Centers for Disease Control (CDC), etc.

GRADUATION

To be recommended for the Bachelor of Science degree (Clinical Laboratory Science) offered by TSU, the candidate must comply with all graduation requirements as stipulated in the TSU Undergraduate Catalog inclusive of the following:

- Present evidence of having satisfactorily completed all prerequisite coursework
- Complete all required courses of the professional curriculum with a grade point average of at least 2.0, and in the case of clinical education, a level of satisfactory proficiency as indicated by clinical evaluation forms
- Discharge all financial obligations to the University.
- Complete application forms for graduation

STUDENT GRIEVANCES

The student grievance procedure is found in the COPHS Student Academic Handbook. This handbook is found on-line and each student is expected to download the handbook for their personal use.

MEDICAL TREATMENT

Information on student health services is outlined in the TSU Undergraduate Catalog. The student health services program provides medical care and educational programs for students to encourage and promote safety and health standards and to safeguard against the spread of infectious diseases by teaching health care, promoting preventive medicine, and providing health services for the observation and treatment of patients in the college setting. Convenient to the residence halls complex, the Health Services program is located in the Student Health Center.

COPHS POLICIES

Class Attendance: Students are expected to attend every class and take each examination

when scheduled. Students are also expected to complete assignments by the due date. If a student needs an excused absence for illness or other emergency, the “Policy for Dealing with Student Emergencies” must be followed. It is anticipated that a student will miss no more than two days at a time. As detailed in the Student Academic Handbook, a student who misses more than **three** consecutive classes **must** comply with the “Extended Leave from Class” (p23) and notify the Assistant Dean of Student Services (ADSS) and the Associate Dean for Academic Affairs (ADAA) in writing. The conditions for a student’s return will be determined by the ADAA.

Cheating:

- Cheating is defined in the COPHS Student Handbook as:
 - Giving or receiving, offering or soliciting information, or using prepared material in an examination. On examinations, students are expected to refrain from talking, from bringing notes and books into the examination room, or looking around the room during the examination.
- A student who governs himself/herself in this type of behavior will be immediately dismissed from the examination site and given the grade of “F” in the course.

Plagiarism:

- Plagiarism is defined in the COPHS Student Handbook as:
 - The appropriation of passages, either word-for-word or in substance from the writings of another and the incorporation of these as one’s own written work offered for credit. It is always assumed that the written work offered for credit is the student’s own unless proper credit is given the original author by the use of quotation marks and footnotes or other explanatory quotes.
- Students who are found to behave in this manner will receive a zero on the assignment in question.

Students

Self-assessment of your performance in COPHS classes is critical to maintaining good academic standing in the college. We are offering the following helpful hints to assist you with your self-assessment:

- Pick up the results of your examinations in a timely manner
- Review your examination results with the instructor
- Follow on with the instructor to assure that examination grades are corrected when there is a grading error
- Compute your pre-final examination course grade based on the results of each examination, quiz or other assigned work
- Meet with the instructor to get answers to your questions during conference hours or by appointment
- Document individual issues of concern with the department chair.

Please make sure that you have performed these student responsibilities. This will help you

understand the status of your academic performance in classes and minimize the types and number of complaints that you might have after semester grades are awarded.

Study Time

Students should read the assigned book chapters before class. Students are expected to study a minimum of two hours for every hour they attend lecture.

Course Evaluations:

will be given at the end of each course. Participation is highly recommended. These evaluations are used in faculty evaluation and curricular evaluation and improvement.

Examination Reviews:

Exam reviews will be utilized to provide students with the answers to exam questions. If a student is unclear of the reasoning for the selection of a correct answer choice, he/she is encouraged to meet with the Course Coordinator/Instructor of Record to discuss the answer or the appropriate lecturer as instructed by the Course Coordinator/Instructor of Record.

Exam reviews for each exam will occur on the days outlined in the course schedule. Any disputes to questions on an exam must be submitted within 5 business days from the day of the exam review. Examinations will be returned to the students.

Make-up Exams:

Make-up examinations are not scheduled and may be permitted only after securing approval from the course coordinator in conjunction with the department chair. Such approval will be granted only on the basis of extremely compelling justification. Such justification includes serious illness. The student should see Blackboard for the policy. A student who misses more than one exam in a given course must have written permission from the ADAA and/or the ADSs in order to make up the second exam.

Student Success Plan:

The COPHS Student Success Plan is intended to foster student achievement and reduce attrition by providing resources and advocacy to students to assist in improving academic performance. It is facilitated through the coordination of the student, the Course Coordinator/Instructor of Record, and the TEAM Center.

Upon receiving a non-passing grade on an exam, the student must complete the self-assessment form and test question analysis form and meet with the Course Coordinator/Instructor of Record and TEAM Center instructor, if applicable. After consulting with the student, a recommended remediation plan will be developed utilizing the Faculty Rx form. The forms are available on Blackboard under Course Content for this course.

Remediation:

Any remediation exams/assignments must be completed by the designated deadline to be

considered for grade replacements. Remediation for courses will be outlined in the syllabus.

Grade Appeal Process:

If at the end of the semester, the student desires to appeal the grade received in the course, the following steps must be followed:

1. The student must first meet with the Course Coordinator/Instructor of Record that s/he is petitioning for a grade change. The Course Coordinator/Instructor of Record will be available during regular office hours to address any concerns at the end of the semester.
2. After meeting with the Course Coordinator/Instructor of Record a written response will be provided to the student. If a satisfactory solution cannot be reached between the student and the Course Coordinator/Instructor of Record, an appeal may be made to the Department Chair.
3. After meeting with the Department Chair a written response will be provided to the student. If a satisfactory solution cannot be reached between the student and the Department Chair, an appeal may be made to the Associate Dean of Academic Affairs.
4. After meeting with the Associate Dean of Academic Affairs a written response will be provided to the student. If the matter is not resolved at the Associate Dean of Academic Affairs level; the student may file a grievance with the Assistant Dean of Student Services following the steps outlined in Article X, Section 4 (Grievances) of the COPHS Student Handbook.

Student Self-Assessment:

Self - assessment of your performance in COPHS classes is critical to maintaining good academic standing in the college. We are offering the following helpful hints to assist you with your assessment.

- Pick up the results of your examinations in a timely manner.
- Review your examination results with the instructor.
- Follow up with the instructor to assure that examination grades are corrected when there is a grading error.
- Compute your pre-final examination course grade based on the results of each examination, quiz or other assigned work.
- Meet with the instructor to get answers to your questions during conference hours by appointment.
- Document individual issues of concern with the department chair.

Please make sure that you have performed these student responsibilities. This will help you understand the status of your academic performance in classes and minimize the types and number of complaints that you might have after semester grades are awarded,

Course Evaluations

Course evaluations will be given at the end of each course. Participation is highly recommended. These evaluations are used in faculty evaluation and curricular evaluation and improvement.

Grading Scale: The COPHS grading scale will be used.

Percentage Score	Letter Grade
97 – 100	A+
94 – 96	A
90 – 93	A-
87 – 89	B+
83 – 86	B
80 – 82	B-
79 – 77	C+
75 – 76	C (minimum passing)
70 – 74	C- (must retake course)
67 – 69	D+
63 – 66	D
60 - 62	D-
0 - 59	F

CLINICAL INTERNSHIPS

PURPOSE OF CLS INTERNSHIP

The purpose of the CLS internship is to provide students with hands-on experiences in a clinical laboratory environment. The CLS internship provides students with opportunities to further develop personal and interpersonal skills as they interact with other members of the health care team.

DESCRIPTION OF CLS INTERNSHIP

Internship/practicum are learning experiences designed to enhance the student's academic and technical skills and to provide professional exposure within a medical/diagnostic facility. These facilities may be private, federal, state and/or local. Students have access to realistic experiences and exposure to managerial, operational, and research activities in clinical laboratory medicine. Clinical preceptors and university officials jointly supervise the internships. Benefits of this type of educational arrangement for the student and the facility are listed below:

The student will benefit by:

- Developing entry-level job performance skills
- Gaining valuable related work experiences that provide a competitive edge in the job market
- Applying concepts learned in the classroom to "real work" situations

- Developing a professionalism (promptness, dependability, good judgment, proper dress code requirements etc.)
- Developing professional ethics in all matter related to confidentiality i.e. patients, co-workers, peers, self

The clinical facility will benefit by:

- Assisting in motivating emerging professionals who are enthusiastic, productive and dependable employees
- Providing an opportunity to lower entry-level recruitment costs through early identification of candidates for employment upon graduation
- Participating in a satisfying relationship that supports and contributes to quality academic and technical undergraduate education

Responsibilities of Clinical Facility:

- Provision of orientation to the clinical facility
- Provision of technical lectures as they relate to workstation
- Evaluation of student's clinical competencies
- Completion of student's evaluation forms
- Assignment of course grades in accordance to syllabus and evaluation form
- The immediate verbal and written reporting of potentially serious conflicts to the Program Director and/or Clinical Education Director
- Provision of opportunities to practice and perform clinical laboratory tests
- Provision of opportunities to use and operate laboratory technology and equipment

Responsibilities of Clinical Laboratory Science Program:

- Identification and assignment of students to clinical internship facility
- Provide only qualified students for assignment to internship facility
- Provide clinical affiliate and students with a Clinical Internship Packet (Syllabus, Psychomotor Evaluation Form, Affective Evaluation Form and an Internship Evaluation Record Sheet/ Grade Calculation Record Sheet and time sheet) for each departmental rotation
- Monitor students' progress through site visits
- Conduct periodic discussions with preceptors
- Investigate and follow through on reports of potentially serious conflict situations at clinical sites
- Collect facilities' preceptor's Psychomotor, Affective and Grade Calculation record sheets of the internship students
- Collect student evaluations surveys of clinical internship experiences
- Provision of testing for clinical internship upon request

CLINICAL INTERNSHIP POLICIES

PROFESSIONAL CONDUCT

Professional and ethical conduct is required at all times while at clinical internship sites. The student is representing TSU-COPHS Clinical Laboratory Science program. Each student is expected to be cooperative, adhere to instructions, and respect patients and other healthcare professionals, which includes following procedures established at the clinical site. Failure to exhibit professional conduct may result in an incomplete clinical internship, zero credit and other disciplinary action, if necessary, as determined by the Office of Experiential Training

ALTERNATE STATUS

Should the number of affiliate/clinical internship sites suddenly change due to unforeseen circumstances and in the case where there are more students eligible to begin clinical internship than there are positions available; assignments will be made based on highest cumulative GPA, etc. Any student not placed in a clinical facility at this time would be placed on "Alternate Status" and be assigned to a clinical facility as soon as positions become available.

PRE-CLINICAL INTERNSHIP TRAINING REQUIREMENTS

CLS students must have completed all their coursework and prerequisites before a clinical internship site is assigned. In addition, the following procedures are also required:

- **Immunizations**
 - Flu, seasonal
 - Rubella
 - Mumps
 - Measles
 - Hepatitis B
 - Diphtheria/Tetanus (DTaP is recommended)
 - TB skin test or chest X-ray
 - COVID-19
- **HIPPA Training:** All students are required to complete Health Insurance Portability and Accountability Act (HIPPA) training and obtain a certificate upon completion.
- **OSHA General Laboratory Safety Training** (Fire Safety, Chemical Safety, Electrical Safety, Biohazardous Safety)
- **Bloodborne Pathogen Trainings**
- **Criminal Background Check**
- **Drug Screening**

The clinical affiliates require drug tests and background checks on students assigned to their facility prior to beginning the clinical experience. If a student is assigned to a clinical affiliate and a problem is detected, the student will not be permitted to continue in the program. **If the program is made aware of problems detected by drug tests or background checks that caused**

one of its students to be rejected for clinical internship at one of its affiliates, the program will not reassign the student to a different clinical facility.

Affiliate Facility Standard Operating Policies and Procedures: All policies and procedures for Affiliates must be adhered to while doing Clinical Rotations

NEEDLE-STICK POLICY

When such an exposure (or “needle-stick”) occurs, the following steps must be followed exactly:

- The student should promptly report the incident to the supervising Preceptor and follow the procedure and guidelines set forth at the Affiliate site. Typically, the procedure will be as follows:
 - Wash hands thoroughly and immediately
 - Report incident to supervising preceptor
 - Affiliate site will have their own procedure for needle-stick injuries
 - Notify program Director by e-mail

DRESS CODE POLICY- CLINICAL INTERNSHIPS

- The **minimal dress code** standards that all TSU CLS students must adhere to during their clinical experience include but is not limited to the following:
 - Clothing must be good condition, clean, and appropriately pressed. Professional attire for male students includes dress slacks, dress shirt, tie, and appropriate closed professional walking shoes. For female students, professional attire includes dress slacks, blouse (appropriate neckline), and appropriate closed walking shoes. Many clinical affiliates reserve certain color scrubs for certain departments therefore, students are advised to check with their assigned clinical affiliate before purchasing scrubs.
 - Closed shoes are required. Shoes must be clean and in good condition.
 - Excessive jewelry is not allowed. One pair of non-dangling earrings and small rings may be permitted unless this impedes with job performance. Bracelets and necklaces are discouraged since they may dangle into the work area.
 - Cosmetic use must be conservative.
 - Perfume, cologne, or other scented items such as lotions and aftershaves, should not be excessive. Some affiliates prohibit use of any fragrance.
 - Nails must be clean and neat. **Fingernail length should not extend more than one-fourth inch past the fingertip.** Nail polish may be worn provided it is conventional and without ornamentation.
 - Hairstyles of students are expected to be conservative, in good taste, clean, and well kept. Students with long hair styles should wear hair pulled back off the face to avoid interference with performance.
 - Identification, provided by the facility, must always be worn and visible

Note that these are minimal dress code standards for TSU CLS students. Clinical affiliates may

have more stringent standards and students must conform to the dress code for the facility to which they are assigned. Specific information on the dress code for each facility will be provided during the orientation session at each affiliate. If a student's appearance is considered inappropriate, the student may be sent home to change, and the student may be required to make up the missed time.

PATIENT CONFIDENTIALITY

Students are responsible for maintaining site and patient confidentiality. Any breach of site or patient confidentiality is grounds for immediate dismissal from the experiential program and may also result in additional disciplinary action as deemed necessary by the College of Pharmacy and Health Sciences and Texas Southern University. Discussion of patient information is limited to the medical team or preceptor. All other discussions are prohibited. Students must adhere to HIPAA guidelines governing patient confidentiality on or off the rotation site. Failure to do so will result in expulsion from the clinical internship and the CLS program.

Do not leave patient results or other documents in public areas. Videotaping, picture taking, photocopying, or storing of information on flash drives, etc. of patients or patient's information are also prohibited. **The use of cell phones is prohibited.**

TRANSPORTATION/PARKING DURING CLINICAL ROTATIONS

The CLS student is responsible for his/her transportation and parking to any assigned site or class activity. Students are not guaranteed a site close to their home address. To guarantee prompt arrival, students should allow enough time for their site destination and parking to guarantee prompt on-time arrival to the practice area.

CELL PHONES AND ELECTRONIC DEVICES

Cell phone use by students while at clinical internship sites is prohibited. For safety reasons, cell phones are not permitted at the workbench. Cell phones may be used during breaks and lunchtime. No pictures, videos, or audio may be captured on any electronic device while on clinical rotations.

HOURS OF ASSIGNMENT

Hours of assignment during clinical internships will vary among the clinical facilities; however, the hours are typically range from 6:00 to 8:00 am - 3:00 to 5:00 pm Monday-Thursday for 8 hours per day. Students at Clinical Internship sites will be performing procedures under qualified personnel at the Site. The student will report to class at TSU on Fridays. During Clinical Internships the student will abide by the affiliate facility employee handbook policies and procedures for: time/attendance, breaks, safety, dress codes and etc.

ATTENDANCE AT CLINICAL INTERNSHIPS

Compulsory class attendance is the policy of the College of Pharmacy and Health Sciences and

applies to all students regularly enrolled in pharmacy and health science courses. For internships, clinical clerkships, and institution/community practice, **no more than two absences are allowed**. Internship class meetings are held Monday through Thursday of each week or as scheduled. **Failure to attend regularly scheduled internship classes as required above will be deemed adequate grounds for dismissal from the course/program.**

Unavoidable absences because of illness or true emergencies do not relieve the student of any academic responsibilities. The student must make arrangements with his/her instructor to obtain any class materials or information that was missed. The instructor is not required to set up an individual lecture session for an individual student.

If the student is to leave the professional program for an extended period of time (more than three consecutive classes) due to illness, the student will notify the:

- Program Director (**in writing**)
- Office of Practice Programs (**in writing**)
- Supervisor at the Clinical Internship site (**in writing**)

In exceptional cases, withdrawal from the course/program may be necessary. Notification of the Program Director and the Associate Deans must occur prior to the commencement of the leave. **The position you left is not guaranteed upon your ability to return.**

During internship **unexcused absences and tardiness will not be tolerated**. Tardiness is defined as being more than **1 minute** late for the scheduled starting time. **Students arriving one hour or more after the scheduled start time will be considered absent.** The clinical affiliate cannot delay or re-schedule certain activities or test procedures that students need to perform or observe. Thus, students are required to be present and on time. Immediate termination is subject to result from unexcused absences. Students are required to notify the Clinical Coordinator/instructor at the Clinical Affiliate site and Program Director on each day absent. Failure to do so may result in removal from the clinical rotation site.

In addition, the following attendance policies will be strictly enforced during clinical internship.

- Attendance for clinical experience is mandatory. In serious circumstances, such as illness of the student, a death in the immediate family, or other circumstances make absence/tardiness unavoidable, the student must notify the Program Director and the Clinical Coordinator/instructor. The student must provide written proof.
- When absence or tardiness is going to occur, the student **must notify the personnel in the clinical internship department/instructor no less than 30 minutes before the scheduled beginning time for that day.**
- Any absence or tardiness without notification will be brought to the attention of the Program Director and the Assistant Dean of the Office of Practice Programs. The privilege to continue in the program will be evaluated.

- If absences occur, makeup time will be required. The amount of time and scheduling of such time will be at the discretion of the clinical instructor/coordinator of the clinical facility. Please note that make-up time cannot occur at nights or weekends since the teaching instructor is not present.
- Approval for scheduled appointments, such as physical/dental appointments or interviews, must be requested in advance.
- If the number of excused or unexcused absences or tardiness becomes excessive, the Program Director and the privilege to continue in the program will be evaluated.

CLINICAL AFFILIATES: (addresses are listed in Appendix B)

Clinical facilities currently affiliated with the TSU CLS Program include:

- Harris County Hospital District (BTGH) and subsidiary clinics (Smith)
- CHI St. Luke's Hospital — HMC
- CHI St. Luke's Hospital — The Woodlands
- Texas Children's Hospital – HMC
- Texas Children's Hospital – The Woodlands
- Solis Medical Laboratory
- Hillcroft Medical Center
- Houston Health Department Bureau of Laboratory Services

CLINICAL ASSIGNMENTS - GENERAL

Clinical instructors expect students to be prepared for each day by reviewing relevant material from on-campus courses. They expect students to have a solid foundation in theory. Clinical instructors are not in a position and do not have the time to provide basic theory review or instruction.

ASSIGNMENTS TO CLINICAL AFFILIATES

Clinical assignments will be made by the Program Director in collaboration with CLS Faculty. Student will receive written notification of their clinical assignment at the beginning of the fall semester of their senior year along with their rotation schedule. These assignments are made only once a year. This assignment will be contingent upon successful completion of all required on-campus courses prior to the clinical experiences. Internships are assigned with the following considerations:

- Availability of clinical sites
- GPA at the time the decision is made
- Coordination of student needs with individual affiliate strengths
- Elimination of any source of conflict of interest on the student's behalf
- Completion of pre-clinical requirements: coursework, vaccinations, TB test (skin test or chest X-ray), proof of liability insurance, drug and background check, HIPAA and BBP training

DATES FOR CLINICAL INTERNSHIPS

Clinical internships begin in the fall semester on the first day of class and continue through the spring semester last day of class/examinations. Schedule is below.

Fall Semester:

Blood Bank (CLSC 467) – 4 Weeks

Hematology (including 1 week in Hemostasis) (CLSC 466) – 5 Weeks

Urinalysis and Body Fluids (CLSC 457) – 3 Weeks

Spring Semester:

Clinical Microbiology (CLSC 468) – 5 weeks

Clinical Chemistry (CLSC 469) – 4 weeks

Serology/Immunology (CLSC 458) – 2 weeks

If a student is unable to obtain a departmental clinical rotation in the semester that the course is offered; the student is assigned a rotation in a department that is available. The student is given a grade of Incomplete (I) in the course he/she registered. The grade is changed to the grade that is earned when the clinical rotation is available and is successfully completed. The grade will be entered into Banner by the program director or the faculty the course is assigned to. The grade that was awarded for the rotation that was available, but the student had not registered for will be entered into Banner by the program director or the faculty the course is assigned to as a final grade during the semester that the class is offered.

MISCELLANEOUS INFORMATION FOR CLINICAL INTERNSHIPS

Students are expected to spend 32 hours per week (Monday through Thursday, 8hrs/day) in clinical internship assignments must attend lectures at TSU Fridays. Friday class time at the University is mandatory, not optional. Students may not exceed eight hours of clinical internship per day (excluding lunch/breaks) and attend at the time specified by the clinical section/department. The morning start time for clinical internships will vary by facility and by section/department within a facility. The Program Director will assist students in determining the time to report on the first day of the clinical internship. The student is responsible for checking on times to report as they change sections/departments. Students will not be scheduled for internships during national/state holidays. Students are responsible for their own transportation and parking during their assigned clinical experience. No adjustment of clinical schedule will be made to meet a student's personal needs (e.g. vacations, jobs, etc). The student will be informed of any schedule changes by the Program Director as soon as possible.

SERVICE WORK POLICY

- During clinical internships, students may not work for pay at any institution to which they are assigned for clinical internships and receiving academic credit until that clinical internship is complete.
- During clinical internships students are not allowed to perform service work or to be substituted for regular staff. Service work does not substitute for clinical experience.
- Students are encouraged to NOT work after clinical hours. However, financial need may necessitate student employment which when necessary should only be part-time. If working comprises student grades and performance, the student must come before the academic standing committee.

FEES FOR CLINICAL INTERNSHIPS

The approximate fee cost to cover requirements needed for entrance into the clinical internship are approximately \$ 500.00 - \$ 600.00. These fees are broken down as follows:

Procedure	Fee	Notes
Flu, seasonal vaccine	\$40.99*	Per one dose
Tdap (tetanus, diphtheria, pertussis)	\$78.99*	Per one dose
MMR (measles, mumps, rubella)	\$110.99*	Per dose
TB skin test	\$80.00 to place and read**	Read at 48 hours
Hepatitis B series	\$95.99* per dose	3 dose series
Varicella	\$169.99* per dose	2 dose series
COVID-19 Vaccine and booster	Free	free
Drug test	\$115.00 for both background check and drug test	Purchase through Castle Branch with document manager
Background check		
Liability Insurance	\$14.75	Available through TSU

*(non-insurance, Walgreen’s as of July 15, 2021, subject to change)

** CVS Clinic 1003 Richmond Avenue, Houston, TX 77006 (non-insurance, subject to change)

In addition, the City of Houston has many health clinics that offer free or reduced-fee vaccines (for example: Sunnyside Multi-Service Center Administration, 9314 Cullen Blvd.)

INJURIES/ACCIDENTS

During clinical internship, the student should report all non-emergency injuries, accidents and/or illness to the Clinical Internship Coordinator/instructor and Program Director. A report documenting the incident should be completed, signed and dated by the student. A copy should be given to the student, the Program Director, and the clinical facility. The student should be sent to their private physician. Upon returning to the clinical facility, the student is to submit documentation from their physician that they are able to return to internship with no endangerment to fellow students, laboratory employees, or patients. Students injured while in clinical experience may be evaluated and treated in accordance with the affiliate's policy for employees. In addition, the student must follow the policies and procedures concerning injuries/incidents at that facility. Financial responsibility for emergency and follow-up care belongs to the student. The Program Director should receive a copy of the incident form no more than two days after the incident.

In emergency situations, the student will be administered appropriate medical intervention and/or first aid at the clinical site. Upon stabilization, the student is required to see their private physician for any needed medical services. Upon returning to the clinical facility, the student is to submit documentation from their physician that they are able to return to internship with no endangerment to fellow students, laboratory employees, or patients.

The CLS program is required to have a method of determining the health status of students prior to entering clinical experience. The required tests are listed under fees. Failure to provide required documentation will prevent the student from entering the clinical internship and result in the student being withdrawn from the program. The clinical affiliate may have additional requirements for student interns. Students will receive this information at the clinical site orientation.

GRIEVANCES

Students and preceptors should contact either the CLS Program Director (Dr. Donnachie) or the Assistant Dean of Practice Programs (Dr. Davila), in writing, to report violations of experiential training program policies. These include alleged ethical and legal violations of the practice of pharmacy, alleged sexual harassment, verbal abuse, inappropriate and offensive physical contact and all forms of discrimination. These types of incidents should **NOT** be reported on the Clinical Internship site evaluation form or student evaluation form nor should it be reported at the end of a rotation. Immediate reporting of such incidents will allow the appropriate action to be taken in accordance with University/College guidelines.

CLINICAL INTERNSHIP SCHOLASTIC ACHIEVEMENT

CLS students must have successfully completed all pre-professional phase and professional phase coursework as outlined in the CLS Program curriculum before being assigned clinical internship.

The TSU CLS Program Director will visit or communicate with the affiliate Clinical Internship Coordinator/instructor to ensure continuing progress of the student. Any problems occurring between student and clinical instructor should be first discussed between those involved.

Persisting problems should be discussed with the Clinical Internship Coordinator at the affiliate. If necessary, problems will be reported to the CLS Program Director for evaluation. If significant problems arise due to the student's relationships with patients, clinical facility personnel, his/her attitudes, attendance, or personality, this can result in the Program Director or Clinical Site discontinuing the student's participation in the clinical experience until he/she appears before the TSU faculty and/or TSU Disciplinary Committee. The student's privilege to return to clinical experience will be evaluated. Significant technical problems will be reported to the Program Director for evaluation. If deficiencies cannot be corrected, participation in the clinical experience may be discontinued at the discretion of the Program Director according to established guidelines, and the student withdrawn from the CLS Program

CLS students participating in an educational internship at an associated facility will be required to perform at or above the minimum performance level to remain in the program. A grade falling below the minimum performance level will require the student to withdraw from the program. The student would be eligible to reapply for admission to the next professional phase class and must meet all admission requirements at the time of re-application. Students that are re-admitted to the program may be required to demonstrate competency in CLS courses previously passed by taking examination and/or laboratory practical examination. Any required demonstration of competency will be delineated prior to re-admission. Students can re-enter the professional phase of the program a maximum of two times.

Supervision of the student should always be provided by a clinical preceptor. It is expected that considerable supervision will be necessary at the start of a rotation and that minimal supervision will be required at the end of the rotation, however, the degree of supervision is left to the discretion of the clinical preceptor in charge. All laboratory testing results which were completed by the student must be reviewed and counter signed by the technologist in charge prior to being reported out. Under NO circumstances should a student sign and release lab results without the acknowledgement and signature of his/her immediate supervisor.

Each student will be provided with as many learning experiences as that laboratory section/department is able to provide in an area/division. Students are required to earn a minimum grade of "C" in each rotation department. Anything below a "C" including "C (-)" is considered a failing grade. The student failing a clinical practicum at any point during the semester internship will be immediately removed from the clinical site and dismissed from the program. A student who fails a clinical practicum may re-apply as a new student to the CLS program; i.e. the student must go through the formal admission process as any other new student.

Achievement in the clinical experience courses is evaluated in several areas — professional attitudes (i.e. Interpersonal relations, dependability, stability, professional image), technical performance, and cognition (knowledge base). Professional attitudes are considered a significant component of student's development and are evaluated during Clinical Internships using the Affective Evaluation form. The Affective Evaluation may be used in many ways during clinical experience with the only requirement being that a final Affective Evaluation Internship

Performance Evaluation form be performed at the end of the Clinical Internship in each section/department. Some sections/departments may choose to have clinical faculty evaluate the student on a weekly basis generating data that may be used at the mid-point conference. Others may choose to do one evaluation at the midpoint, prior to the mid-point conference. Still others may choose to evaluate the student only at the end of their clinical experience in the department. Each section/department in which a student receives a grade will evaluate the student's professional attitudes by selecting the category that most closely describes the student. The final Affective Evaluation form accounts for 30% (or 40% if no exam on site is given) of the total final grade and is the only one that will be used in the grade determination for the clinical experience in the respective section/department. In association with the Affective Evaluation, a professional development counseling form will be utilized to document discussions with the student related to areas of needed improvement before the final evaluation.

The student's technical performance in each section/department during clinical experience will be evaluated using the Psychomotor Laboratory Skill Evaluation. The Psychomotor Evaluation is divided into four areas — behavioral task, minimum required procedures, performance level, and teaching technologist initials. The Psychomotor Evaluation will require ongoing evaluation during the time spent in each section. Competency will be determined at the end of the clinical experience in the respective area when in the professional opinion/judgment of the clinical instructor(s) the concepts listed were completed at a 74% or higher level. A 74% competency level is defined as explaining and/or performing each task a 74% level. This is not to be interpreted as total competency being equated to completion of 74% of the required task listed in this section. Failure to complete any task at the required minimum level of 74% will result in failure of this section of clinical experience.

The behavioral tasks/test section of the Psychomotor form contains specific functions required by the program. The number in the required section is the number of times the specific task/test procedure must be repeated. The performance level is the level of accuracy that must be achieved with each repetition. This is not to be interpreted as competency being equated to successfully completing a certain percentage of the required number of repetitions for each task/test procedure. A space has been provided in this section to record with check mark the level at which the task/test procedure has been successfully completed. The student is considered competent when the indicated number of task/test procedures have been completed, each at the indicated level of accuracy not below "3". Once competency is attained, the task/test procedure should only be repeated as necessary to maintain the defined level of competency.

If competency could not be obtained for a particular task/test procedure through no fault of the clinical site or student, indication of this will be noted by the clinical faculty alone with a brief explanation. If this situation arises, failure to complete the required competency will not be counted against the student. The final Psychomotor grade is 50% (or 60% if no exam is given on site) of the final grade for the respective area.

In conjunction with the Psychomotor form, the student will be provided with a checklist daily log to specify the test procedure performed inclusive of the number of tests during the departmental rotation. The teaching supervisor will indicate by their initial the correctness of the procedure and the number performed. It is the student's responsibility to maintain this log and submit it to the teaching supervisor for submission to the Clinical Education Director and/or Program Director to aid in your grade computation. This form will also be checked periodically upon visits by university faculty.

Clinical Competencies

During the clinical internship rotation, the CLS student will:

1. Determine acceptability of patient specimen for requested tests
2. Perform assigned tasks under the supervision of the clinical instructor according to established policies and procedures.
3. Enhance laboratory skills by:
 - a. Performing test and related tasks
 - b. Operate and assist with the maintenance of equipment being utilized by the student
 - c. Apply QC and PI practices and procedures to evaluate the acceptability of laboratory data
 - d. Correlate patient laboratory data
 - e. Evaluate and compare procedures and methods
4. Report patient data according to facility procedure
5. Following initial instruction and practice, demonstrate skill development by:
6. Complete psychomotor/formative laboratory skill evaluation daily
7. Complete unknowns, where applicable
8. Enhance knowledge by completing assigned reading, study material and review question for each department
9. Demonstrative cognitive knowledge by:
 - Correctly answering 75% of review questions
 - Correctly answering 75% of quiz and/or test material
 - Correctly respond to verbal questions
10. Demonstrate professional attributes, inclusive but not limited to:
11. Maintain an organized workstation
12. Be punctual and appropriately dressed
13. Comply with safety regulations
14. Adhere to honesty and confidentiality
15. Accept responsibility for own actions.

(adapted from Armstrong Atlantic State University Medical Technology Program)

DEGREE PLAN

Degree Plan (for those students that enrolled in Fall 2020 and later)
BACHELOR OF SCIENCE IN CLINICAL LABORATORY SCIENCE
 Accredited by the National Accrediting Agency for Clinical Laboratory Sciences

TOTAL CREDITS: 128

	FIRST SEMESTER		SECOND SEMESTER	
	First Year	CHEM 111 General Chemistry I Lab	1	CHEM 112 General Chemistry II Lab
CHEM 1311 (formerly 131) General Chemistry I Lec		3	CHEM 1312 (formerly 132) General Chemistry II Lec	3
MATH 1314 (formerly 133) College Algebra		3	COMM 1315 (formerly SC 135 or 136)	3
ENG 1301 (formerly 131) Freshman English I		3	ENG 1302 (formerly 132) Freshmen English II	3
BIOL 1306 (formerly 131) Biological Science I Lec		3	BIOL 132 Biological Science II Lec	3
FS 102 Freshman Seminar		1	Social/Behavioral Sciences **	3
Visual and Performing Arts*		3	COSC 1301 (formerly CS 116) Computer Science	3
		17 Hrs		19 Hrs
	THIRD SEMESTER		FOURTH SEMESTER	
	Second Year	CHEM 211 Organic Chemistry I Lab	1	CHEM 212 Organic Chemistry II Lab
CHEM 231 Organic Chemistry I Lec		3	CHEM 232 Organic Chemistry Lec	3
BIOL 245 & 245L Human Anatomy & Physiology		4	ENG 2XXX Level English Literature	3
POLS 2305 (formerly 231) American Government		3	BIOL 347 and 347L Microbiology ##	4
HIST 1301 (formerly 231) Social & Political History of the United States to 1877		3	POLS 2306 (formerly 236) Texas Government	3
HSCR 360 Principles of Disease		3	HIST 1302 (formerly 232) Social & Political History of the United States since 1877	3
	17 Hrs		17 Hrs	
	SUMMER		SUMMER	
	Summer			
		0 hrs		0 Hrs
	FIFTH SEMESTER		SIXTH SEMESTER	
	Third Year	CLSC 353 Clinical Microscopy & Body Fluids	2	CLSC 351 Serology Practices & Procedures
CLSC 353L Clinical Microscopy & Body Fluids Lab †		1	CLSC 351L Serology Practices & Procedures Lab	1
CLSC 304 CLS Practice Management I		1	CLSC 305 CLS Practice Management II	1
CLSC 352 Hematology I		2	CLSC 356 Hemostatic Processes	1
CLSC 352L Hematology I Lab		1	CLSC 356L Hemostatic Processes Lab	1
CLSC 354 Blood Bank †		2	CLSC 362 Hematology II	2
CLSC 354L Blood Bank I Lab		1	CLSC 362L Hematology II Lab	1
CLSC 355 Clinical Chemistry I		2	CLSC 364 Blood Bank II	2
CLSC 355L Clinical Chemistry I Lab		1	CLSC 364L Blood Bank II Lab	1
CLSC 359 Clinical Microbiology I		2	CLSC 365 Clinical Chemistry II	2

Fourth Year	CLSC 359L Clinical Microbiology I Lab	1	CLSC 365L Clinical Chemistry II Lab	1	
			CLSC 369 Parasitology/Mycology	1	
			CLSC 369L Parasitology/Mycology Lab	1	
		16 Hrs		17 Hrs	
	SUMMER			SUMMER	
		0 Hrs		0 Hrs	
	SEVENTH SEMESTER			EIGHTH SEMESTER	
					3
	2	CLSC 407 - Capstone Review	2		
CLSC 406 - Practice Management/Ethics III					
CLSC 457 Clinical Practicum I Preceptorship	3	CLSC 458 Clinical Immunology Preceptorship	2		
CLSC 466 Clinical Hematology Preceptorship	4	CLSC 468 Clinical Microbiology Preceptorship	4		
CLSC 467 Clinical Blood Bank Preceptorship	4	CLSC 469 Clinical Biochemistry Preceptorship	4		
	13 Hrs		12 Hrs		

* Either one of the following: THEA 130, MUSI 136, MUSI 239, ART 135, or ART 137 (TCCN: DRAM 1310, MUSI 1306, HUMA 1315, HUMA 2323, ARTS 1301).

** Social and Behavioral Sciences requirements maybe fulfilled by either of the following: PSY 131, SOC 157, SOC 158, SOC 221, SOC 238, ECON 231, ECON 232

ENG 2xxx: ENG 230, ENG 231, ENG 235, or ENG 244 (TCCN: ENGL 2332, ENGL 2333, ENGL 2326, or ENGL 2328; American, World or African American Literature options accepted American

*** Freshman Seminar: A free elective will need to be applied in place of Freshman Seminar for transfer students

Internship (last Year) is restricted to students who have satisfied ALL program requirements and who have been approved for assignment

LISTED COURSES

CHEM 232/212 L
BIOL 245
BIOL 347 and 347L

SUBSTITUTED COURSE

CHEM 445 and 445L
BIOL 135 & 136
BIOL 246 and 246L

Students should seek advisement prior to registering for any course intended to be used as credit toward the Clinical Laboratory Science degree.

COURSE DESCRIPTIONS

HEALTH SCIENCES CORE COURSES

HSCR 360 Health Sciences Seminar: (3) Review of current social, political, and economics issues; their impact on specific health disciplines via discussions, simulations, and presentations. Comprehensive study of principles and concepts in human disease focusing on the cellular and mechanistic processes involved in disease and resultant clinical and physiological manifestations. Etiology, pathogenesis, prognosis, social implications and research initiatives relative to human disease and health are stressed. Three hours of lecture per week.

CLINICAL LABORATORY SCIENCE COURSES

CLSC 304 CLS Practice Management I (1) The course integrates didactic instruction with case studies and performance of laboratory procedures to provide a comprehensive understanding of clinical laboratory policies and procedures inclusive of an overview of the profession, phlebotomy, laboratory safety, compliance and regulatory agencies. One hour of lecture per week. **Pre-requisite: Acceptance into the CLS program**

CLSC 305 CLS Practice management II (1) The course is designed to provide an orientation to the theory and required skills in education methodology, laboratory information systems, laboratory calculations and quality assurance. One hour of lecture per week. **Pre-requisite: Acceptance into the CLS program**

CLSC 351 Serology Practices and Procedures (2) Integration of didactic instruction with discussion of serology tests in normal and disease states, principles and significance of procedures, quality control, audiovisual and case studies to provide a comprehensive understanding of serologic practices and procedures in evaluating disorders of the immune system, infectious diseases, autoimmune disease and hypersensitivity states. Two hours of lecture weekly. **Prerequisite: Acceptance into the CLS program. Co-requisite: Concurrent enrollment or completion of CLSC 351**

CLSC 351L Serology Practices and Procedures Laboratory (1) Course provides students with a simulated clinical laboratory experiences in processing patient specimens, performing selected tests/analyze specimens, report results and correlate test results with pathologic diseases/conditions. Three hours of laboratory weekly. **Co-requisite: Concurrent enrollment or completion of CLSC 351. Prerequisite: Acceptance into the CLS Program.**

CLSC 352 Hematology I (2) The theory of development of cellular elements of the blood including principles of diagnostic importance to detect disease and recognize normal processes affecting the anemias, leukemias, etc. of the hematopoietic system. **Two** hours of lecture weekly. **Prerequisite: Acceptance into the program Co-requisite: Concurrent enrollment or completion of CLSC 352L**

CLSC 352 L Hematology Laboratory I (1) Routine laboratory assay used to assess the

hematopoietic system related to the detection, identification, and pathophysiology of anemias, leukemias, and other blood **dyscrasias**. **Three hours of laboratory weekly. Prerequisite: Acceptance into the CLS program. Co-requisite: Concurrent enrollment or completion of CLSC 352.**

CLSC 353 Clinical Microscopy and Body Fluids: (2) An introduction to urinalysis and body fluid analysis, including anatomy and physiology of the kidney, physical, chemical and microscopic examination of urine, cerebrospinal fluid and other body fluid; inclusive of theory, performance and interpretation of procedures involving the physical, chemical and microscopic properties of urine and body fluids. **Two hours of lecture weekly. Prerequisite: Acceptance into the CLS Program. Co-requisite: Concurrent enrollment or completion of CLSC 353L.**

CLSC 353L Clinical Microscopy and Body Fluids Laboratory (1): Clinical laboratory experiences in which students process patient specimens, perform selected tests, report results, correlate data with various pathologic diseases/conditions; enhance critical thinking and decision making in the correlation of patient data. Three laboratory hours weekly. Prerequisite: Acceptance into the CLS Program. Co-requisite: Concurrent enrolment or completion of CLSC 353.

CLSC 354 Blood Bank I (2): The course is a comprehensive study that focuses on regulatory agencies, quality assurance policies and practices, basic principles of immunology and genetics (inclusive of molecular genetics), antigen and antibody theory, in-vitro practices, anti-globulin testing and compatibility testing relevant to blood banking and safe transfusion practices. Critical thinking and analytical skills will be increased via case studies. Two hours of lecture weekly. **Prerequisite: Acceptance into the CLS program. Co-requisite: Concurrent enrollment or completion of CLSC 354L.**

CLSC 354L Blood Bank I Laboratory (1): Students will apply the acquisition of blood banking knowledge and of analytical and critical thinking skills through the performance of blood blanking testing procedures. Quality assurance and quality control practices and testing procedures will be performed. Safety issues and practices will be emphasized. Three hours of laboratory weekly. Pre-requisite: Acceptance into the CLS Program. Co-requisite: Concurrent enrollment or completion of CLSC 354.

CLSC 355 Clinical Chemistry I (2): Course focuses on basic clinical chemistry practices and procedures designed to provide a comprehensive understanding of subject matter and correlate test results with various diseases/conditions. Two hours of lecture weekly. Prerequisite: Acceptance into the CLS Program Co-requisite: Concurrent enrollment in or completion of CLSC 355L.

CLSC 355L Clinical Chemistry Laboratory I (1): Course provides students with the opportunity to process patient specimens, perform selected tests, report and correlate test results with various pathologic diseases/conditions and gain experience in quality control, performance improvement, critical thinking, decision making and test correlation. Three hours of laboratory

weekly. **Prerequisite:** Acceptance into the CLS program. **Co-requisite:** Concurrent enrollment in or completion of CLSC 355.

CLSC 356 Hemostatic Processes (1): The theory of the coagulation mechanism and its relationship in disease states with emphasis on identification of coagulation deficiencies and abnormalities; enhancement of critical thinking and decision-making utilizing case studies and correlation of patient data. **One** hour of lecture weekly. **Prerequisite:** Acceptance into the CLS program. **Co-requisite:** Concurrent enrollment in or completion of CLSC 356L.

CLSC 356L Hemostatic Processes Laboratory (1): Routine laboratory assay used to assess the hemostatic system relating to the detection, identification and pathophysiology of blood diseases affecting thrombus formation inclusive of platelet enumeration and evaluation. **Three** hours of laboratory weekly. **Prerequisite:** Acceptance into the CLS program. **Co-requisite:** Concurrent enrollment in or completion of CLSC 356.

CLSC 359 Microbial Human Disorders I (2): Skills development and performance in the detection, isolation, and identification of microbes of medical importance to human pathologic conditions. **One** hour of lecture and **three** hours of laboratory per week. **Prerequisite:** Acceptance into the CLS program.

CLSC 362 Hematology II (2): Advance theory in hematology focusing on routine and specialized processes required to perform, interpret, classify and evaluate cellular abnormalities and recognize those conditions that are considered normal. Case studies are utilized to enhance the development of critical thinking and decision-making skills. **Two hours of lecture weekly.** **Prerequisites:** CLSC 352 and CLSC 352L. **Concurrent enrollment in or completion of CLSC 362L.**

CLSC 362 L Hematology II Laboratory: (1) Routine and specialized testing are used to define, diagnose, monitor, evaluate, classify, and validate patient data in the assessment of blood cell abnormalities of the hematopoietic system. **Three** laboratory hours weekly. **Prerequisites:** CLSC 352 and CLSC 352L. **Co-requisite:** Concurrent enrollment or completion of CLSC 362.

CLSC 364 Blood Bank II :(2) A continuation of knowledge and skills acquired in blood blank, blood donor collection, testing, utilization and storage of blood and blood components. Transfusion therapy practices, adverse complications of transfusion therapy, Hemolytic Disease of the fetus and newborn, and hemolytic anemias will be explored. Case studies will be utilized to enhance critical thinking and analytical skills. **Two** lecture hours weekly. **Prerequisite:** CLSC 354 and CLSC 354L. **Co-requisite:** Concurrent enrollment or completion of CLSC 364L.

CLSC 364L Blood Bank II Laboratory (1): An advanced level of testing procedures will be performed in this course. Students will demonstrate the acquisition of blood banking knowledge, analytical and critical thinking skills through the performance of blood banking testing procedures. Quality assurance practices, including quality control testing will be

performed. Safety issues and practices are emphasized. Three laboratory hours weekly. Prerequisite: CLSC 354 and CLSC 354L. Co-requisite: Concurrent enrollment or completion of CLSC 364.

CLSC 365 Clinical Chemistry II (2): Advance specialized clinical chemistry to provide the opportunity to process patient specimens, perform selected tests, report and correlate test data with various pathologic disease/conditions and gain experience in quality control, performance improvement, critical thinking, decision making and test correlation. Two hours of lecture weekly. Prerequisites: CLSC 355 and CLSC 355L. Co-requisite: Concurrent enrolment or completion of CLSC 365L.

CLSC 365L Clinical Chemistry II Laboratory (1): Course will focus on opportunities to process patient samples, perform required tests, report and correlate patient test data with various diseases/conditions inclusive of quality control, performance improvement, critical thinking and decision making. Three **hours of laboratory weekly** Prerequisites: **CLSC 355 and CLSC 355L** Co-requisite: **Concurrent enrollment or completion of CLSC 365.**

CLSC 369 Parasitology/Mycology (2): Recognition of parameters to detect, isolates, and identify the characteristics of medically important microbiologic, mycological, and parasitic organisms of man. **One hour of lecture and three hours of laboratory per week. Prerequisite: CLSC 359 and 359L.**

CLSC 406 CLS Practice Management/Ethics III (2): This course will provide exposure to laboratory management. One hour of lecture per week. Prerequisites: CLSC 304 and CLSC 305.

CLSC 407 Capstone Review (2): Classes will be reinforcement of theoretical acquisition of core knowledge in CLS to facilitate application to board type questions and students will deliver presentations covering core knowledge. Prerequisites: all 3rd year courses and CLSC 406

CLSC 457 Clinical Practicum Preceptorship (3) Performance of serological and urinalysis techniques and methods in an affiliated clinical facility. Course includes quality assurance practices and procedures and equipment maintenance. Thirty-two hours of laboratory/clinical rotation per week. Prerequisite: Consent of the Program Director and fourth year standing.

CLSC 458 Clinical Immunology Preceptorship (2) Clinical rotation in an affiliated clinical facility with emphasis on technical skills and applications. Thirty-two hours of laboratory per week. Prerequisite: Consent of the Program Director

CLSC 466 Clinical Hematology Preceptorship (4) Clinical practicum in an affiliated clinical facility with emphasis on practical/technical skills and applications. Thirty-two hours of laboratory/clinical rotation per week. Prerequisites: Fourth year standing and consent of the Program Director.

CLSC 467 Clinical Blood Bank Preceptorship (4) Clinical practicum focusing on the performance of antibody assessments, compatibility testing, component preparation, donor processing of donated blood, and quality assurance. Thirty-two hours of laboratory/clinical rotation per week. Prerequisites: Fourth year standing and consent of the Program Director

CLSC 468 Clinical Microbiology Preceptorship (4) Clinical rotation at an affiliated clinical site to emphasize practical/technical skills and applications. Thirty-two hours of laboratory/clinical rotation per week. Prerequisites: Fourth year standing and consent of the Program Director.

CLSC 469 Clinical Biochemistry Preceptorship (4) Clinical rotation at an affiliated clinical site to emphasize practical/technical skills and applications. Thirty-two hours of laboratory/clinical rotation per week. Prerequisites: Fourth year standing and consent of the Program Director.

APPENDIX A: CLS STUDENT COUNSELING FORM

Student Name: _____

Date of Counseling: _____ Date of Incident: _____

Nature of Violation

Poor Performance Unprofessional Conduct

Other: _____

Action Taken

Verbal Warning

Written Warning

Other: _____

Summary of Violation

(Attach any additional documentation)

Summary of Corrective Plan of Action

(Attach any additional documentation)

Signature of Student: _____

Date: _____

Signature of Program Director: _____ Date: _____

APPENDIX B: ADDRESSES OF CLINICAL AFFILIATE SITES

- Harris County Hospital District (hospitals and subsidiary clinics)
 - Ben Taub General Hospital
 - 1504 Taub Loop, Houston, 77030
 - Smith Clinic
 - 2525-A Holly Hall St. Houston, 77054
 - Lyndon Baines Johnson Hospital
 - 5656 Kelley Street, Houston 77026
- CHI St. Luke's Hospital — HMC
 - 6720 Bertner Avenue, Houston, TX 77030
- CHI St. Luke's Hospital — The Woodlands
 - 17200 St. Luke's Way, The Woodlands, TX 77384
- Michael E. DeBakey V. A. Medical Center
 - 2002 Holcombe Blvd, Houston, TX 77030
- Solis Medical Laboratory
 - 7501 Fannin St Ste 800, Houston, TX 77054
- Hillcroft Medical Center
 - 1429 HWY 6, Sugar Land, TX 77478
- Houston Health Department Bureau of Laboratory Services
 - 2250 Holcombe Blvd, Houston, TX 77030
- Texas Children's Hospital – Houston Medical Center
 - 6621 Fannin St, Houston, TX, 77030
- Texas Children's Hospital – The Woodlands
 - 17600 IH 45S, The Woodlands, 77384

APPENDIX C: TSU CLS OUTCOME MEASURES

ASCP Board Passing rates

	Graduated between 7-1-18 and 6-30-19	Graduated between 7-1-19 and 6-30-20	Graduated between 7-1-20 and 6-30-21	Graduated between 7-1-21 and 6-30-22
A. Total # graduates	13	20	11	6
B. # who sat for board exam within 1st year of graduating	10	17	5	4*
C. # who passed board exam within 1 st year of graduation	6	3	3	4*
Yearly certification pass rate % (C/B) x 100	60%	18%	60%	*

*as of September 30th, 2022. The one-year time frame for collecting data has not yet expired

Average ASCP Board Passing rate of years ending in 6-30-19, 6-30-20, 6-30-21 38%

Graduation/Attrition Rates

	Students slated to graduate between 7-1-19 and 6-30-20	Students slated to graduate between 7-1-20 and 6-30-21	Students slated to graduate between 7-1-21 and 6-30-22
A. # who began final half of program	22	13	7
B. # who began the final half of program but left either voluntary or involuntary	1	1	0
C. # who began final half of program but are still currently enrolled	1	1	1
D. # who began final half of program during the given time period and have since graduated	20	11	6
Yearly Attrition Rate%: $(B/A) \times 100$	5%	8%	0%
Yearly graduation rate%: $[D/(A-C)] \times 100$	95%	92%	100%

Average graduation/attrition rate of the latest 3 years is 95%

APPENDIX C (con't): TSU CLS OUTCOME MEASURES

Placement Rates

	Students who graduated between 7-1-18 and 6-30-19	Students who graduated between 7-1-19 and 6-30-20	Students who graduated between 7-1-20 and 6-30-21	Students who graduated between 7-1-21 and 6-30-22*
A. Total number of graduates	13	20	11	6
B. # who found employment in field or in a closely related field within 1 year of graduation	11	15	7	4*
C. # who did neither of the above	1	1	2	0*
D. # for which you have no information	1	4	2	2*
Yearly Average Placement rate percentage: $\{B/(B+C)\} \times 100$	92%	94%	78%	*

***Data as of September 30th, 2022. The one-year time frame for collecting data has not expired yet.**

Average Placement rate of the latest 3-years with completed information is 89%

CLS STUDENT HANDBOOK SIGNATURE PAGE

I have been provided with a copy of TSU CLS Program Student Handbook. The material in the handbook that includes the Program's rules, regulations, and policies was reviewed in my presence and I was given the opportunity to discuss, and have the material clarified.

Signature _____

Printed Name _____

Date _____

Student T Number _____

CLS STUDENT INTERNSHIP REVIEW SIGNATURE PAGE

THIS PAGE IS TO BE SIGNED PRIOR TO BEGINNING CLINICAL RTATIONS.

I have reviewed the policies regarding Clinical Internships as outlined in the TSU CLS Program Student Handbook. The material in the handbook that includes the Program's rules, regulations, and policies was reviewed in my presence and I was given the opportunity to discuss and have the material clarified.

Signature_____

Printed Name_____

Date_____

Student T Number_____